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COUNTY OF ANGLESEY

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE YEAR 1955

G. WYNNE GRIFFITH,
M.D., D.P.H.

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To:

The Chairman and Members of the Health Committee—

Mr. Chairman, My Lord, Ladies and Gentlemen,

I have the honour to present the forty-fourth annual report of the county medical officer of health, being a report on the health of the county in 1955.

The year was notable for the dry hot summer and autumn. Only some 6½ inches of rain fell in five months from June to November. The drought was a severe test for the county water scheme but the reservoir's capacity was in the event to prove adequate. It is not difficult to imagine the plight of many towns and villages during the second half of 1955 had there been no county water scheme.

Vital Statistics.

The *population* of the county, estimated at mid-year to be 51,600, shows again a slight increase on the previous year. The fall in the *birth rate* continues. The *stillbirth rate* was slightly higher than last year and the *infant mortality rate* has risen to 43 per 1,000 live births from last year's record low figure of 28. There were two *maternal deaths* in 1955. This shows a disconcerting trend. From 1948 to 1951 there was only one maternal death. From 1952 to 1955 there have been five such tragedies.

Of the notifiable infectious diseases, *measles* was epidemic in 1955, but *whooping cough* was not unduly troublesome. Four cases of *poliomyelitis* occurred and two of *enteric fever.* For the sixth year in succession there was not a single case of *diphtheria.* The last death from this once dread disease occurred 10 years ago.

The Wastage of Infant Life.

I have repeatedly stressed in the past that too much attention should not be directed to the rates of stillbirth and infant mortality in any single year. In a county of this size these rates are based on comparatively small numbers and are, therefore, subject to correspondingly large fluctuations from the operation of chance factors.

But an examination of the experience over a period of several consecutive years may prove instructive. The results of such an examination were last published in my Annual Report for 1951. As an appendix to this present report will be found an analysis of the position for the four years from 1952 to 1955. There has been an undoubted improvement. The total wastage in Anglesey in the last four years is 13 per cent. less than in the period covered by the earlier review. To some extent this reflects a national trend because the wastage in England and Wales had also declined (by 9 per cent.) in the same period of time. We may note, too, that to some extent the gap has been closed between the local rate and that for England and Wales. Whereas in the earlier period the Anglesey rate was 33 per cent. above that in England and Wales, in the last four years the excess has been reduced to 24 per cent.

The analysis shows how the improvement has affected predominantly what is referred to as the " late " wastage. That is to say, the wastage of infant life that occurs after the age of one month. Whereas there has been a decline of only 3 per cent. in the excess of the Anglesey rate over that for England and Wales as it affects infants before the age of one month, there has been a decline of 17 per cent. in the excess after that age. There are many adverse factors that make for the excess late wastage and the examination of the data for recent years indicates ways in which we might expect to improve the effectiveness of the health visitor. The " early " wastage, that is to say, the wastage from stillbirth and infant deaths in the first month of life is largely a matter of adequate ante-natal care and good obstetrics. There is room for improving the liaison between the various agencies concerned—the general practitioner, the hospital service, and the local health authority-- so that the best provision possible can be made for the expectant mother before, during and immediately after her confinement.

The Health of Children.

The importance of preventing the break-up of families is being increasingly recognised. Not only is the maintenance of the family unit important from the point of view of the emotional development of the child and the prevention of mental ill-health in later life, but it is becoming clear, too, that from a purely financial aspect there is much to be said for avoiding " taking children into care." In a circular (27/54, dated 30th November, 1954) the Welsh Board of Health stressed ways which the local authority might in appropriate cases adopt in this preventive social work. The device of the " case conference " has been employed by the Council for some years. With the chairman of the children's committee in the chair, officers of the local authority, of voluntary bodies and of the National Assistance Board meet periodically to discuss what action should be taken concerning individual " problem " families. Health visitors are instructed to be as selective as possible in their work, concentrating their attention on those families that stand most in need of their help. Home helps have been provided in many instances where this appeared the best way to meet the threat of breaking up the family, even temporarily. To indicate the kind of work that has been done, I would refer to two cases. In the first we failed in our objective ; in the second so far we appear to be succeeding.

Mrs. X was recognised to be of low mentality, and married to a man intellectually her equal. They had two small children and eventually a prosecution for neglect could not be avoided. The father was committed to prison and the mother was put on probation on condition that she attended with her two small children a recuperative home at the expense of the county council. When, in due course, the family was re-united, we had, through the good offices of one of the district councils, obtained a council house for them, and the loan of sufficient furniture and furnishings to set up house. The health visitor took an immense amount of time and trouble to help instruct and guide Mrs. X. She visited daily and sometimes twice and three times a day. However, it became clear that Mrs. X was quite incapable of managing her family and despite all the training and help that she received we had to acknowledge defeat. The two small children are now happily boarded out.

Mrs. Y was also of low mentality. She was separated from her husband and lived with her mother, whose influence was not good. There were two children of the marriage and when it was learnt that a third (illegitimate) was on the way it was feared that the break-up of the family would be inevitable. However, by the assiduous attention of the health visitor and the help of a local lady who undertook to supervise the expenditure of the household income, this unhappy prospect has so far been avoided. Mrs. Y's three children are surprisingly well cared for and healthy. She is obviously very fond of them and the children are happy.

At current costs, the maintenance of these three children in a Home would cost the county more than the salary of a health visitor.

Fluoridation in Anglesey.

On the 17th November, fluoridation started. In view of the interest shown by the Council in this new public health measure from 1951 onwards, it was appropriate that the Anglesey project should have been the first to operate in Great Britain.

Fluoridation is intended to reduce substantially the incidence of dental disease. In connection with the Anglesey project a careful survey has been made of the incidence of dental disease among school children and children under school age. The survey was made by dental officers who had received special instruction in the techniques required and only children born and continuously resident in the county were included. Great care was taken to ensure that the survey was fully representative.

At the time of writing provisional results only are available. These indicate that the average number of defective teeth of Anglesey children ranges from 3.9 per child at the age of 3 years, to 7.6 per child at the age of 15 years. The average child entering school at the age of 5 years already has 6 or 7 teeth affected by dental decay.

These findings leave no doubt that dental disease is widespread, and that its prevention is a problem deserving urgent attention. The obvious way to prevent any disease is to remove the cause, but we are faced with the difficulty that the cause of dental decay is not known with certainty. The diet is a major factor. If we all ate our food raw, avoiding all sugar and sweetmeats, then probably the incidence of dental disease would be greatly reduced. During the last war the population had to accept profound restriction on their dietary, but to change the feeding habits of a people by persuasion and education alone will take generations, It follows, therefore, that any measure which can reduce the incidence of dental disease, even if it were regarded only as a stop-gap measure for a generation or two, merits serious consideration and it is just this that fluoridation holds promise to do. One other aspect of this question should be mentioned. Is there no other way of utilising the protective properties of fluoride except by putting it in the water supply ? And the answer is that at the present time there is no alternative. The time may well come when it may be possible to administer fluoride to children up to the age when the teeth have formed and to children only. That time is not yet. At the present either we must forego the benefits of fluoride entirely or we must accept its addition to the water supply.

Much play has been made from time to time of the poisonous properties of fluoride. We know, of course, that fluoride in excessive amounts is dangerous, but there is nothing new in the idea that a substance, dangerous in excessive amounts, may be beneficial, even essential, to the body's economy in small amounts. An obvious example is vitamin D. Unless a child has enough vitamin D in his diet he will develop rickets, but a child can be poisoned by vitamin D in excess. Precisely the same is true of iron. Even the oxygen which we breathe can be dangerous in excess. The question at issue is whether the amount of fluoride taken as a result of adding 1 p.p.m. to the water supply is dangerous. This is not the place to rehearse the immense body of information that is available on the medical effects of fluoride, but the following statements recently issued summarise the position :—

The Central Medical Advisory Committee of the Ministry of Health, a Committee under the Chairmanship of Sir Henry Cohen, Professor of Medicine at Liverpool University, and on which sit *ex officio*, the Presidents for the time being of the Royal Colleges of Physicians, Surgeons and Obstetricians and Gynaecologists, together with other leaders of the medical profession, has stated :—

" Despite many years of observation and investigation there is no scientific or medical evidence at present available suggesting that there is any risk in drinking water containing added fluoride in the concentration of one part per million."

The Medical Research Council, whose authority on subjects of medical science is recognised the world over as being pre-eminent, has stated :—

" There is no evidence warranting alteration or abandonment of the fluoridation projects. They (*i.e.*, the Medical Research Council) agree in general with the conclusions of the United Kingdom Mission (1953) to the effect that, despite considerable interest and research, there is no definite evidence that the continued consumption of fluorides at a level of about 1 p.p.m. in drinking water is in any way harmful to health and that, if any untoward effect is revealed by future research, it is most unlikely to be serious."

Sanitary Circumstances.

Details of the progress made in the building of council houses will be found in the body of the report. The progress made in Rural Districts in recent years has been very gratifying. In proportion to the population the number of new houses has more than doubled in the last 4 years in each of the rural districts.

In last year's report I commented on the comparative lack of progress in Holyhead Urban District and the need for a major housing drive in that area. I regret to say that there is no evidence in the figures that this materialised in 1955, although at the time of writing it looks as if more progress can be expected in 1956.

Both Aethwy and Valley Rural District Council made decided progress in the provision of water-borne sewage systems for the larger villages in 1955, but no scheme was started in Twrcelyn Rural District. I commented last year on this fact, referring to the seaside villages of Benllech, Cemaes and Moelfre, and to the unsatisfactory state of affairs reported to exist at the height of the holiday season in particular. More than ten years have elapsed since the end of the war, and these urgently-needed projects have not yet been put in hand. It would be indeed unfortunate if the unfavourable financial climate at present obtaining were to result in further delays.

Acknowledgments.

Once again I am glad of the opportunity to bring to your attention the many services rendered by voluntary workers, particularly the voluntary helpers at the infant welfare clinics, the St. John Detachments and the British Red Cross Society.

It is a pleasure, too, to acknowledge the kindness and co-operation shown by the other officers of the council. I am particularly indebted to the Clerk of the Council and his department for assistance and advice frequently sought and readily given. The County Water Engineer (Mr. W. H. Austin), and the Inspector of Food and Drugs (Mr. H. A. Thomas) kindly provided information relating to their departments for inclusion in this report. I am indebted to the district medical officers of health, the assistant county medical officers, the nursing and clerical staff for their loyal co-operation. I welcome, too, the opportunity to thank you, Sir, and the members of the Health Committee, for the interest you have evinced in the work of the department and for the support you have accorded to me at all times.

I am,

Your obedient servant,

G. WYNNE GRIFFITH,

June, 1956. County Medical Officer.

Table 1.

GENERAL STATISTICS.

District	*Area in Acres*	**Population*	*Rateable Value* (1.4.55)
			£
Beaumaris Borough	3,135	2,250	14,705
Amlwch Urban	4,494	3,000	19,009
Holyhead Urban	730	10,330	53,958
Llangefni Urban	2,510	2,440	18,640
Menai Bridge Urban	824	2,000	12,213
Total Urban Districts	11,693	20,020	£118,525
Aethwy Rural	52,352	10,670	37,476
Twrcelyn Rural	53,865	8,500	29,813
Valley Rural	58,784	12,410	52,034
Total Rural Districts ..	165,001	31,580	119,323
Total Administrative County	176,694	51,600	£237,848

* Registrar General's estimate for mid-year 1955.

Product of 1d. rate for County 1955/56......£937

METEOROLOGY.

Monthly climatological data relating to R.A.F. Establishment, Valley, and supplied by courtesy of the Director of the Meteorological Office, Air Ministry.

Table 2

Year	Rainfall		Sunshine		Temperature		Fog
1955	*Mean dly rainfall mms.*	*No. of Wet Days*	*Mean dly hrs. of sunshine*	*No. of sunny days*	*Mean Max. day temp.*	*Mean Min. temp. night*	*No. of days fog recorded.*
January	2.6	14	1.54	4	43	36	6
February ..	2.2	12	4.03	9	42	32	6
March	1.1	6	6.31	18	46	34	3
April	1.7	11	6.00	13	53	42	9
May	1.9	13	6.69	7	55	45	2
June	3.4	11	4.89	7	61	51	6
July........	0.8	2	11.01	21	71	53	3
August	0.9	6	8.74	19	70	55	10
September ..	1.8	11	5.89	14	63	54	3
October ..	1.1	7	3.53	7	56	46	4
November ..	0.9	7	2.35	6	52	42	3
December ..	2.9	15	1.19	4	49	43	0

(1) "Wet day" is a day when 1.0 mm. or more of rain was recorded.

(2) "Sunny day" is a day when 60 per cent. of possible hours of sunshine was recorded.

(3) Temperature in degrees Fahrenheit.

The weather was particularly noteworthy for the low rainfall, long hours of sunshine and high temperatures in the latter half of the year as compared with 1954. Fog, however, was somewhat more prevalent than in the previous year.

VITAL STATISTICS.

Where possible the comparable rates for England and Wales are shown. For the current year these are provisional figures issued by the Registrar General.

A table will be found at Appendix "D" showing the statistics for the individual county districts.

Births.

There were 791 *live births* registered during the year, corresponding to a birth rate of 15.3 per 1,000 population.

The trend of the birth rate over the past 10 years can be seen from the table set out overleaf, which gives the England and Wales data for comparison.

Table 3

BIRTH RATE PER 1,000 POPULATION

	Anglesey	*England and Wales*
1946	18.9	19.2
1947	19.9	20.5
1948	18.7	17.9
1949	17.8	16.7
1950	16.8	15.8
1951	16.1	15.5
1952	17.0	15.3
1953	16.1	15.5
1954	15.9	15.2
1955	15.3	15.0

Illegitimate live births accounted for 50 out of the total of 791 live births. The illegitimate birth rate is thus 0.97 per 1,000 population. The trend of the illegitimate birth rate over the past 10 years can be seen from the table set out below, which gives for comparison the corresponding rates for England and Wales.,

Table 4

ILLEGITIMATE BIRTH RATE PER 1,000 POPULATION

	Anglesey	*England and Wales*
1946	2.3	1.3
1947	1.8	1.1
1948	1.7	1.0
1949	1.0	0.8
1950	1.3	0.8
1951	0.9	0.7
1952	1.2	0.7
1953	1.2	0.7
1954	0.8	0.7
1955	1.0	Not available

Stillbirths.

Stillbirths during the year numbered 23, which gives a stillbirth rate of 0.45 per 1,000 population. The corresponding rate for England and Wales was 0.35. To express stillbirths as a rate per 1,000 population is liable to mislead, because if the population is ageing, that fact alone would cause a decline in the rate computed in this way. It is of more interest to know what proportion of developing pregnancies (i.e. pregnancies which advance to the 28th week) have live issue. Table 5 shows the stillbirth rate per 1,000 total (live and still) births for the past 10 years, with the England and Wales figures for comparison.

Table 5

STILLBIRTHS PER 1,000 BIRTHS (LIVE AND STILL)

	Anglesey	*England and Wales*
1946	34	27
1947	33	23
1948	34	23
1949	28	23
1950	29	23
1951	19	23
1952	25	23
1953	17	22
1954	25	23
1955	28	23

Infant Mortality.

There were 34 deaths of infants under 12 months of age during the year. This gives an infant mortality rate of 43.0 per 1,000 live births. The corresponding rate for England and Wales was 24.9 per 1,000 live births.

The trend of the infant mortality rate over the past 10 years can be seen by reference to Table 6, where England and Wales rates are shown for comparison.

Table 6

INFANT MORTALITY RATE.

	Anglesey	*England and Wales*
1946	46	43
1947	43	41
1948	39	34
1949	45	32
1950	38	30
1951	55	30
1952	47	28
1953	33	27
1954	28	25
1955	43	25

Neonatal Mortality.

It is convenient when considering the mortality of infancy to differentiate between deaths in the first month of life (neonatal deaths) and subsequent deaths in the first year of life. The neonatal mortality is closely allied to stillbirth in-so-far as factors operative during the pregnancy and the confinement are largely responsible for both. The table below sets out the neonatal mortality for the county alongside the figures for England and Wales for the past 10 years.

Table 7

NEONATAL MORTALITY RATE

(*Deaths under* 1 *month per* 1,000 *live births*)

	Anglesey	*England and Wales*
1946	26	24
1947	25	23
1948	27	20
1949	29	19
1950	19	18
1951	28	19
1952	33	18
1953	22	18
1954	17	18
1955	33	17

Maternal Mortality.

There were two maternal deaths during the year. Table 8 gives details of maternal mortality for the past 10 years.

Table 8

MATERNAL MORTALITY

		Rate per 1,000 total births (live and still)	
	Actual Number	*Anglesey*	*England and Wales*
1946	2	2.1	1.4
1947	—	—	1.2
1948	—	—	1.0
1949	1	1.1	1.0
1950	—	—	0.9
1951	—	—	0.8
1952	1	1.1	0.8
1953	1	1.2	0.8
1954	1	1.2	0.7
1955	2	2.5	0.6

General Mortality.

There were 838 deaths of persons at all ages registered during the year after allowing for transferable deaths (inward and outward). This gives a crude death rate of 16.2 per 1,000 population. The corresponding rate for England and Wales was 11.7. Because the rates as computed take no account of differences in the age composition of the population in question (hence the appellation "crude") whereas as a matter of common experience, mortality is correlated to age, valid comparisons of crude rates are impossible to make. Applying the comparability factor given by the Registrar General to the crude death rate gives a corrected death rate of 13.6 per 1,000 population.

Tables 9 and 10 show the deaths according to the cause and classified by age at death and by county district respectively.

There were 107 more deaths in 1955 than in the previous year.

I should like to draw attention to the persistent high mortality from *disease of the prostate.* There have been consistently from 10 to 16 deaths a year from this cause from 1951 to 1955. Even after making an appropriate allowance for differences in the age structure of the local as compared with the national population, this mortality is about 40% above that for England and Wales. It may be, though we have no reason to think so, that the condition is commoner here than in the country as a whole. The alternative hypothesis is that, for some reason, treatment locally is more hazardous than in the country generally.

Table 9

CAUSES OF DEATH AT DIFFERENT PERIODS OF LIFE, 1955

		MALES								FEMALES								
	Causes.	0-	1-	5-	15-	25-	45-	65-	75-	0-	1-	5-	15-	25-	45-	65-	75-	*Total*
1	Tuberculosis, respiratory	—	—	—	—	2	3	2	—	—	—	—	—	1	3	—	—	11
2	Tuberculosis, other	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	Syphilitic disease	—	—	—	—	—	1	—	1	—	—	—	—	1	—	—	—	3
4	Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5	Whooping Cough	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	Meningococcal Infections	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7	Acute poliomyelitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	Measles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9	Other infective diseases	—	—	—	—	—	—	—	—	1	—	—	—	—	1	—	—	2
10	Cancer of stomach	—	—	—	—	—	4	4	5	—	—	—	—	—	5	5	9	32
11	Cancer of lung	—	—	—	—	—	9	4	1	—	—	—	—	—	—	—	—	14
12	Cancer of breast	—	—	—	—	—	—	—	—	—	—	—	—	—	3	4	4	11
13	Cancer of uterus	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	2
14	Cancer of all other sites	—	—	—	—	2	6	19	8	—	—	—	1	2	11	14	11	74
15	Leukaemia	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1
16	Diabetes	—	—	—	—	—	1	1	1	—	—	—	—	—	1	1	1	6
17	Vascular lesions of nervous system	—	—	—	1	—	12	27	36	—	—	—	—	1	13	24	51	165

18	Coronary disease, angina	—	—	—	—	3	20	22	11	—	—	—	—	—	6	7	14	83
19	Hypertension with heart disease	—	—	—	—	—	3	5	8	—	—	—	—	—	—	6	7	29
20	Other heart diseases	—	—	—	—	1	3	13	42	—	—	—	—	1	12	11	69	152
21	Other circulatory diseases	1	—	—	—	1	3	6	7	—	—	—	—	—	—	4	6	28
22	Influenza	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	5	7
23	Pneumonia	3	—	—	—	—	1	4	4	1	1	—	—	—	—	2	5	21
24	Bronchitis	—	—	—	—	1	4	7	8	—	—	—	—	—	—	4	7	31
25	Other diseases of respiratory system	—	—	—	—	—	2	1	1	—	—	—	—	—	—	—	2	6
26	Ulcer of stomach and duodenum	—	—	—	—	2	—	—	—	—	—	—	—	1	—	—	—	3
27	Gastritis, enteritis and diarrhoea	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	1	3
28	Nephritis and nephrosis	—	—	—	—	—	—	—	6	—	—	—	—	—	1	3	5	15
29	Hyperplasia of prostate	—	—	—	—	—	1	3	8	—	—	—	—	—	—	—	—	12
30	Pregnancy, childbirth, abortion	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	2
31	Congenital malformations	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	3
32	Other defined and ill-defined diseases	17	1	—	—	2	3	5	18	9	—	—	—	2	8	10	19	94
33	Motor vehicle accidents	—	1	1	4	2	1	—	—	—	—	—	—	—	—	—	—	9
34	All other accidents	—	1	2	1	3	1	—	3	—	—	1	—	—	1	1	—	14
35	Suicide	—	—	—	1	1	1	1	1	—	—	—	—	—	—	—	—	5
36	Homicide and operations of war	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	All causes	22	3	4	8	20	80	125	169	12	1	1	2	10	67	98	216	838

Table 10

CAUSES OF DEATH CLASSIFIED BY COUNTY DISTRICTS, 1955

	CAUSES	*Amlwch*	*Beaumaris*	*Holyhead*	*Llangefni*	*Menai Bridge*	*Aethwy*	*Twrcelyn*	*Valley*	*Total*
1	Tuberculosis, respiratory	—	2	4	—	—	3	2	—	11
2	Tuberculosis, other	—	—	—	—	—	—	—	—	—
3	Syphilitic disease	—	—	—	—	—	—	—	3	3
4	Diphtheria	—	—	—	—	—	—	—	—	—
5	Whooping Cough	—	—	—	—	—	—	—	—	—
6	Meningococcal Infections	—	—	—	—	—	—	—	—	—
7	Acute Poliomyelitis	—	—	—	—	—	—	—	—	—
8	Measles	—	—	—	—	—	—	—	—	—
9	Other infective diseases	—	—	—	—	—	—	—	2	2
10	Cancer of stomach	2	1	7	1	1	7	5	8	32
11	Cancer of lung	—	—	5	—	2	3	2	2	14
12	Cancer of breast	1	—	4	—	—	1	1	4	11
13	Cancer of uterus	—	—	—	—	—	1		1	2
14	Cancer of all other sites	4	1	14	3	3	18	11	20	74
15	Leukaemia	—	—	—	—	—	—	—	1	1
16	Diabetes	—	—	2	—	1	1	—	2	6
17	Vascular lesions of nervous system	14	1	28	6	8	17	31	60	165
18	Coronary disease, angina	—	2	17	4	3	17	16	24	83
19	Hypertension with heart disease.	1	—	11	—	—	7	5	5	29
20	Other heart diseases	14	4	30	3	4	34	18	45	152
21	Other circulatory diseases	4	—	4	—	1	6	8	5	28
22	Influenza	—	1	1	—	—	2	2	1	7
23	Pneumonia	—	—	3	—	—	8	6	4	21
24	Bronchitis	4	—	6	1	1	8	4	7	31
25	Other diseases of respiratory system	1	1	1	—	—	1	1	1	6
26	Ulcer of stomach and duodenum	—	—	—	—	—	—	—	3	3
27	Gastritis, enteritis and diarrhoea.	—	—	1	—	—	—	—	2	3
28	Nephritis and nephrosis........	—	—	1	1	1	2	5	5	15
29	Hyperplasia of prostate	—	1	2	1	1	2	1	4	12
30	Pregnancy, childbirth, abortion..	—	—	—	1	—	—	—	1	2
31	Congenital malformations......	—	1	—	—	—	—	—	2	3
32	Other defined and ill-defined diseases	6	4	14	5	5	25	14	21	94
33	Motor vehicle accidents	—	—	1	—	—	4	—	4	9
34	All other accidents	1	—	3	1	1	1	2	5	14
35	Suicide	—	—	2	—	—	1	1	1	5
36	Homicide and operations of war..	—	—	—	—	—	—	—	—	—
	Totals	52	19	161	27	32	169	135	243	838

The Main Causes of Death.

A summary of the deaths showing the principal causes is given below.

Table 11

	Number	*Per cent of all deaths*
Heart disease	264	31.5
Cancer	133	15.9
Intra-cranial vascular lesions	165	19.7
Bronchitis and Pneumonia	52	6.2
Tuberculosis	11	1.3
Violence	23	2.7
Congenital Malformations, etc.	3	0.4
All other cases	187	22.3
	838	100.0

The following table shows the relative importance of the principal causes of death in Anglesey over a period of years.

Table 12

Years	*Total deaths all causes*	*Per cent. of total deaths due to*				
		Heart disease	*Cancer*	*Bronchitis Pneumonia*	*Tuber-culosis*	*Fevers**
1915/19	4,151	11.2	9.2	13.4	10.5	9.3
1920/24	3,733	13.6	11.4	9.5	9.7	8.2
1925/29	3.810	14.2	12.6	10.1	8.7	7.9
1930/34	3.744	21.6	14.1	7.3	8.1	4.6
1935/39	3.775	26.4	14.8	6.9	5.7	7.6
1940/44	3,772	26.0	14.0	9.5	5.6	4.0
1945/49	3,508	30.6	16.0	7.1	4.8	0.9
1950/54	3,622	29.4	16.1	7.2	2.3	0.6
1955	838	31.5	15.9	6.2	1.3	0.2

*Fevers include diphtheria, measles, whooping cough, cerebro-spinal fever, scarlet fever, typhoid and enteric fever.

EPIDEMIOLOGY.

The notifications of infectious diseases during the year are set out below.

Tables 13 and 14 include cases diagnosed in Caernarvonshire hospitals and therefore notifiable to the Medical Officer of Health of the district in which the hospital is situate.

Table 13

NOTIFICATIONS OF INFECTIOUS DISEASES, 1955

DISEASE.	URBAN					RURAL.			
	Amlwch	*Beaumaris*	*Holyhead*	*Llangefni*	*Menai Bridge*	*Aethwy*	*Twrcelyn*	*Valley*	*Total*
Diphtheria	—	—	—	—	—	—	—	—	—
Scarlet Fever	6	—	3	—	—	4	7	1	21
Dysentery	1	—	1	8	2	6	4	—	22
Acute pneumonia	1	—	—	—	—	—	2	6	9
Ac. poliomyelitis	—	—	1	—	—	—	—	3*	4
Measles	6	10	177	69	90	188	243	155	938
Whooping Cough	21	—	10	2	2	73	20	30	158
Food Poisoning	—	—	—	—	—	—	1	1	2
Typhoid and Paratyphoid Fever	—	—	—	—	1	—	1	—	2
Meningococcal Infections	—	—	—	—	—	1	—	1	2

* Paralytic in 2 cases.

In Table 14 will be found the trend of notifications over the last 10 years.

Table 14

NOTIFICATIONS OF INFECTIOUS DISEASES, 1946/55

Disease	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Diphtheria	27	9	4	2	—	—	—	—	—	—
Scarlet Fever	36	27	21	14	65	27	58	49	99	21
Typhoid and Paratyphoid	—	—	1	—	—	—	—	—	1	2
Dysentery	—	1	2	—	23	50	6	63	3	22
Pneumonia........	48	42	43	31	28	81	29	10	21	9
Meningococcal Infections	1	1	1	—	—	—	—	1	—	2
Ac. Poliomyelitis ..	—	2	1	2	3	4	2	5	4	4
Puerperal Pyrexia..	1	1	—	—	—	—	—	1	—	—
Erysipelas	1	2	5	4	4	4	3	2	2	—
Measles	543	291	379	227	175	1191	70	763	159	938
Whooping Cough ..	33	90	196	44	72	430	286	144	168	158
Ophth. Neonatorum	—	—	—	1	—	—	—	—	—	—
Food Poisoning ..	—	—	—	—	—	—	7	3	59	2
Encephalitis	—	—	—	—	—	—	—	1	—	—
Malaria*	—	—	—	—	—	—	—	—	1	—

*Contracted abroad

There were no cases of *diphtheria*, *smallpox*, *ophthalmia neonatorum* or *erysipelas* during the year. *Scarlet Fever* with 21 cases was the lowest since 1949.

This is the sixth year in succession in which no confirmed cases of *diphtheria* have been notified, and the ninth consecutive year in which no death has occurred from this disease. That this happy state of affairs is the result of widespread immunisation cannot be contested.

Pneumonia was considerably less prevalent than in the previous year. An epidemic of *measles* produced 938 cases, but there was a slight drop in the incidence of *whooping cough*. Four sporadic cases of *poliomyelitis* came to notice during the year, two of which were of the paralytic type. The county was again however spared any major prevalence of this disease.

Dysentery with 22 cases showed a considerable increase over 1954 but there were only 2 cases of *food poisoning* compared with 59 in the previous year.

Mortality from infectious diseases during the year is shown in Table 15, together with the trend of mortality over the past 10 years. Tuberculosis excepted, only 2 deaths occurred from notifiable infectious diseases.

Table 15

MORTALITY FROM INFECTIOUS DISEASES, 1946/55.

(including certain diseases which are not notifiable)

Disease.	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955
Diphtheria	3	—	—	—	—	—	—	—	—	—
Scarlet Fever	—	—	—	—	—	—	—	—	—	—
Typhoid and Paratyphoid	—	—	1*	—	—	—	—	—	—	—
Meningococcal Infections	—	2	1	—	1†	—	1†	1*	—	—
Ac. inf. enceph.	1	1	1	—	—	—	—	—	—	1
Ac. poliomyel. and polioenceph. ..	—	—	1	—	1	—	—	1*	—	—
Enceph. Leth.	—	—	—	—	—	—	—	—	—	1
Measles	1	—	3	—	1	—	—	1	1	—
Whooping Cough ..	—	1	3	1	—	1	1	1*	1	—
Influenza	17	9	3	9	5	38	5	4	9	7
Diarrhoea under 2 years	1	5	1	—	2	8	2	3	1	1
Puerperal Sepsis ..	—	—	—	—	—	—	—	—	—	—

*Inward Transferable Death. † Not notified.

Venereal Disease.

Details of the work done at the Caernarvon and Anglesey Clinic and at the St. David's Hospital for Anglesey patients were as follows :—

Table 16

	Syphilis		*Gonorrhoea*		*Non-Venereal conditions*	
	M	F.	M.	F.	M.	F.
New Cases			2	1	31	4
Early	2	—				
Late	—	3				
Congenital	1	14				
Old Cases and transferred Cases	36	56	1	3	7	10
Defaulters :						
For treatment and for observation	6	11	—	—	1	3
Total remaining	28	50	—	—	6	4

VACCINATION AND IMMUNISATION.

Vaccination against smallpox and whooping cough, and immunisation against diphtheria are offered to the public free of charge either by their own general practitioner or at one of the authority's clinics.

Smallpox Vaccination.

During the year vaccination records were related to the area of residence as follows :

Table 17

VACCINATION RECORDS RECEIVED IN 1955

	Primary	*Re-vaccinations*	*Total*
Amlwch	29	9	38
Beaumaris	22	5	27
Holyhead	83	11	94
Llangefni	28	4	32
Menai Bridge	19	3	22
Aethwy	119	99	218
Twrcelyn	74	9	83
Valley	91	10	101
	465	150	615

The number of infant vaccinations in Anglesey in 1955 is equivalent to 50 per cent. of the number of live births notified. In England and Wales for 1955 infant vaccinations corresponded to 36.4% of live births.

That we enjoy a higher level of protection than the country generally is due to the good work in health education of the local medical profession and the health visitors. Nevertheless, there is room for improvement, and our aim should be the successful vaccination in early infancy of every healthy baby. The resulting level of immunity would in due course enable us to face with equanimity the prospect of the introduction of virulent smallpox into our community—a contingency which is ever present in these days of rapid and extensive air-travel.

Diphtheria Immunisation.

751 children were immunised during 1955 as follows :

Under 1 year	433
From 1—4 years	216
From 5—14 years	102

In addition, 849 children received a "boosting" dose during the year.

All available records of diphtheria immunisation in the county have been carefully analysed in order to obtain a realistic estimate of the state of protection of the child population.

At the end of 1955 it is estimated that the following percentages of children were fully protected by immunisation against diphtheria.

Aged.	*Per Cent. Protected.*
Under 1 year	21.5
From 1 to 4 years	70.9
From 5 to 14 years	91.2
Total : Under 15 years	81.3

Whooping Cough Vaccination.

Combined whooping cough and diphtheria prophylaxis is made available at clinics and to general practitioners.

The number of children protected against whooping cough during 1955 were :—

Under 1 year	428
From 1 to 4 years	183
From 5 to 14 years	6
Total	617

The number of children given a course of injections in 1954 was 236.

TUBERCULOSIS.

There were 67 (55 respiratory and 12 non-respiratory) new notifications received during the year, and 11 deaths due to tuberculosis were registered. The data for notifications and deaths over the past 10 years has been as follows :

Table 18

	Notifications			*Deaths*		
	Resp.	*Non-resp.*	*Total*	*Resp.*	*Non-resp.*	*Total*
1946	54	11	65	37	6	43
1947	63	7	70	32	6	38
1948	68	8	76	31	2	33
1949	55	17	72	23	2	25
1950	55	13	68	14	5	19
1951	67	20	87	14	3	17
1952	56	14	70	14	3	17
1953	68	14	82	12	5	17
1954	52	7	59	14	—	14
1955	55	12	67	11	—	11

In addition, 1 respiratory and 1 non-respiratory case came to my knowledge during the year through the death returns. 7 respiratory and 2 non-respiratory cases were transferred from other areas.

The number of known cases on the register increased by 13 during the year.

The county has shared in the spectacular decline in mortality which has been a feature of the national figures for this disease in recent years. The annual average number of deaths for the last three years is only half the figure for the years 1943/48. For the second year we can record that no deaths occurred from the non-respiratory forms of tuberculosis.

Admissions to hospital totalled 51 in 1955, and while there were 9 cases awaiting admission at the end of 1954, there was only one on the waiting list at the end of 1955.

The following is the report of Dr. J. Glyn Jones, Area Chest Physician :

"There has been during the year no further dramatic decline in notification or deaths. Indeed, the former shows a slight increase. In a small county such as Anglesey, some fluctuation in the rates is inevitable, and is no cause for alarm. Nevertheless, the figures confirm that the complacency now being displayed in some quarters is premature and the time has not yet arrived when we can relax our efforts to eradicate tuberculosis.

The reopening of the wards damaged by fire in 1951 at Llangefni Sanatorium is now imminent, and may abolish the small waiting list for males. There are already empty beds for women at Druid Hospital, and for children at Penhesgyn. These vacancies are not altogether due to the reduction in incidence of the disease. It is unfortunately a fact that an increased number of patients are now refusing beds in hospital, and demanding treatment at home. The provision of home helps by the County Council, and a free ambulance service to take patients for periodical X-ray examination make it easier for such people to have their own way. It is true that a number of patients can quite satisfactorily be treated in their homes, and when beds were scarce we were very glad of this. But there are others for whom hospital treatment is essential, not only in their own interests, but also to prevent spread of infection to others, and it is among such persons that the regrettable tendency to refuse admission is now increasing.

The State, the local authorities, and various voluntary organisations are now tackling the tuberculosis problem in a more realistic manner than ever before. Aided by the improvement in medical knowledge, the excellent results of these combined efforts are quite obvious. To achieve permanent conquest of the disease, it is necessary that the patients themselves, and their families, should cooperate by accepting medical advice and taking full advantage of all the facilities that are today available for diagnosis and treatment."

Care and After Care.

Table 19 gives details of the number of cases in each area and of the number of visits paid.

Table 19

Area.	*No. of Visits paid*	*No. of cases on Register at* 31/12/55
Amlwch	123	28
Beaumaris	144	41
Bodedern	123	29
Bodorgan	133	24
Holyhead	552	154
Llangefni	153	42
Llanfechell	137	31
Marianglas	157	39
Menai Bridge	131	26
Newborough	54	40
Totals	1707	454

Shelters are still not popular, and at the end of 1955 only two shelters were in use.

Supplies of milk and extra nourishment were given free of charge to 10 cases during the year.

It is the practice to urge the immediate household and family contacts of a new case to submit to examination by the chest physician. In 1955 153 contacts of 69 new cases were examined in this way.

B.C.G. Vaccination

In Table 20 is set out the work done during the year in the routine testing and vaccinating of young contacts of notified cases of tuberculosis. Since vaccinations commenced in 1949 a total of 670 contacts have been vaccinated with B.C.G.

The number of new cases coming to light (whether by notification or otherwise), and the number of contacts examined were as follows :—

	1954	1955
New cases of tuberculosis	62	69
Contacts examined :		
Children	123	107
Adults	68	67

Table 20.

B.C.G. VACCINATIONS, 1955

Age Group	*Total Tested*	*Multiple Puncture*		*Vaccinated*	*Refusal of test and/or vaccination*
		+ *ve*	— *ve*		
Up to 5 years..	49	2	46	66*	1
5-9 years......	33	8	21	21	4
10 and over....	25	5	18	18	2
Total ..	107	15	85	105	7

* Includes 20 vaccinations of new-born babies.

B.C.G. Vaccination of School Children

During the year B.C.G. vaccination was offered to all children attending schools in the county aged 13 to 14 years, and also, at the request of the Board of Management, to the cadets of H.M.S. *Conway*.

The co-operation shown by the Head Teachers concerned and by the Welsh Regional Hospital Board Mass Radiography Service is gratefully acknowledged.

A detailed report has been submitted to the Education Committee and a few of the salient facts only need to be repeated here.

Consents.—Written consent of the parent to testing and, where necessary, to vaccination, was obtained for 70 per cent. of the children concerned.

Of the children aged 13 to 14 years who were tested 25 per cent. were found to be positive reactors but as we had eliminated certain children who were known to be positive reactors (because they had themselves been notified as cases of tuberculosis or because they had been examined as contacts of other notified cases and, unless at the time giving positive reaction, vaccinated with B.C.G.) this figure under-estimates to some extent the prevalence of natural infection at this age. The limits of the " true " level may be calculated as 26.3 per cent. and 28.3 per cent. the range representing those children positive as the result of vaccination on some previous occasion.

Numbers Involved.—The numbers tested and vaccinated in the secondary schools were 365 and 264 respectively. In addition, 92 cadets of H.M.S. *Conway* were tested and 63 vaccinated.

X-ray Results.—Following the tuberculin tests 117 positive reactors (88 secondary school children and 29 cadets) were examined by the Miniature Mass Radiography Unit and all were happily found to be free from pulmonary tuberculosis.

Mass Radiography.

The general population in some areas was included in the 1955 survey. Senior pupils and school staffs were examined as usual and a full report has been submitted to the Education Committee.

The results were as follows :—

	Number Examined	*Definite pulm. Tub. New Cases*	*Needing further Observation*	*Other Abnormalities*	*Healed tuberculosis.*
General Population	2,566	6	2	172	8
Secondary School Children	1,579	0	2	20	0
School Staffs.............	450	1	1	10	0
Other Establishments (factories, etc.)	1,916	3	2	67	2

MIDWIFERY AND MATERNITY SERVICES.

Births.

The number of births *notified* during the year classified by place of occurrence was as follows :—

Table 21

	Live Births	*Stillbirths*
At Home	121	1
St. David's Hospital	415	19
Gors Maternity Home	225	3
Private Nursing Homes, etc.	14	—
	775	23

In 1955 84 per cent. of all births took place in institutions.

The Council's midwives attended 127 deliveries, including miscarriages during the year. 36 were midwives' booked cases and 91 were doctor's booked cases, the doctor being present at the time of delivery in 45 of these confinements.

Five applications were received during the year for the Committee to accept financial responsibility for the ante-natal care of unmarried mothers. Four of the applications were granted.

Analgesia in Domiciliary Midwifery

Fourteen out of the 17 District Nurse/Midwives employed by the Council hold the certificate of the Central Midwives Board authorising them to administer gas and air analgesia in midwifery cases, and the necessary apparatus is available to them all.

The number of domiciliary cases who received gas and air analgesia during the year was 70 or 56 per cent. of all cases confined at home. In addition, pethidine was administered in 55 cases.

Medical Aid.

During the year midwives called in medical aid for domiciliary cases on 20 occasions, and this Authority was responsible for the payment of the doctor in 2 cases.

Midwifery Packs.

Midwifery packs are issued by the midwives for domiciliary confinements on demand.

Domiciliary Ante-Natal Care by Midwives

As soon as the expectant mother "books" with her, the midwife undertakes ante-natal supervision and, unless the mother is reluctant to attend, all midwives in the county service are instructed to arrange for their cases to be seen periodically at the county ante-natal clinics. The midwives attend with their cases. In addition, they undertake regular ante-natal supervision of all booked cases in the patient's home.

Details of the work done by domiciliary midwives in 1955 are given in Table 22.

Table 22

District	*No. of Domiciliary Confinements*	*No. of ante-natal cases visited*	*No. of visits paid*	*No. of Still-Births Regd.*	*No. of Infant Deaths Regd.*
Amlwch..........	18	51	153	4	4
Beaumaris	12	34	203	—	1
Bodorgan	8	37	149	1	5
Holyhead	28	45	211	7	11
Llanerchymedd ..	5	17	57	—	4
Llanfechell	12	40	239	3	1
Llangefni	9	98	892	5	3
Llanddona	8	8	66	1	1
Marianglas	6	28	100	1	1
Menai Bridge	8	12	79	—	2
Newborough	13	19	113	1	1
Total	127	389	2262	23	34

Ante-Natal Clinics.

Ante-Natal clinics were held at three centres in the county as follows :—

Holyhead	Weekly
Amlwch........................	Fortnightly
Llangefni	Fortnightly

Details of attendances at these clinics are appended :

Table 23

	Number of Cases.			*Attendances*
	Ante-natal	*Post-natal*	*Gynaecological*	
Amlwch..........	110	25	14	323
Holyhead	300	51	135	1182
Llangefni	139	37	2	497
Total	549	113	151	2002

CHILD WELFARE

Infant Mortality.

The infant mortality rate for 1955 was 43.0 per 1,000 live births as compared with 28.3 in 1954. The causes of infant deaths are shown in the following table :

Table 24

CAUSES OF INFANT DEATHS 1955

Cause.	*Age at Death*					*Total*
	Under 1 *day*	1-7 *days*	1-4 *weeks*	1-3 *mths.*	3-12 *mths.*	
Pneumonia	—	1	—	3	—	4
Gastro-enteritis	—	—	—	1	—	1
Cong. malformations ..	—	—	—	—	1	1
Prematurity	11	5	—	—	—	16
Other Circulatory Dis'es	—	—	—	—	1	1
Ac. Encephalitis	—	—	—	—	1	1
Other causes..........	3	6	—	1	—	10
Total	14	12	—	5	3	34

Child Mortality.

There were 9 deaths in the age group 1 year to 15 years, and the causes were :

Pneumonia	1
Accidents	6
Other defined diseases	1
Congenital malformations	1

The Care of Premature Infants.

Details of cases notified in 1955 were as follows :—

(a) Number of premature babies who were born :	
(i) At home	8
(ii) In private nursing homes	—
(iii) In hospitals	57
(b) Number of those born at home who were	
(i) Nursed entirely at home	5
(ii) Transferred to hospital	3
(c) Number of those born at home and nursed entirely at home :	
(i) Who died during first 24 hours	—
(ii) Who survived at the end of 28 days	5
(d) Number of those born at home and transferred to hospital, who survived 28 days	2
(e) Number of those born in nursing homes who survived 28 days	—
(f) Number of those born in hospitals who survived 28 days	39

Infant Welfare Centres.

One thousand two hundred and forty-one children were on the rolls during 1955, and the total attendances numbered 6,336, a decrease of 268 compared with 1954.

Details of the work done are shown below.

Table 25

INFANT WELFARE CENTRES

(1)	No. of centres provided at end of year		13
(2)	No. of sessions held per month at centres		28
(3)	No. of children who attended centres during the year and who were born in : 1955	435	
	1954	408	
	1953—50	398	
			1241
(4)	No. of children who first attended the centres during the year who at their first attendance were under 1 year		553
(5)	Total number of attendances made by children included in (3) during the year :		
	Under 1 year	4354	
	1 year but under 2	1103	
	2 years but under 5	879	
			6336

Clinics are held at 13 places in the County as detailed in Appendix C.

The experiment of assisting a general practitioner to conduct an infant welfare clinic for patients in her practice at the doctor's surgery was continued in 1955. Sessions are held twice monthly, and 35 children attended during the year. Attendances made according to age were as follows :

Under 1 year	130
From 1 to 2 years	74
Over 2 years	—
Total	204

Dental Care of Young Children (under 5 years of age)

Table 26 gives details of the work done in 1955.

Table 26

Number inspected	32
Number found to need treatment	23
Number treated	23
Number rendered dentally fit	22

Forms of dental treatment provided :

Number of teeth extracted	23
Number of teeth filled	12
Number of silver nitrate treatments	—
Number of scalings and gum treatment	1

In addition to the above, a further 415 children were examined in connection with the fluoridation survey.

No expectant or nursing mothers were seen during the year by the authority's dental officers.

Distribution of Welfare Foods.

During 1955 the following welfare foods were distributed in the county :—

National Dried Milk, full cream	31150	tins
National Dried Milk, half cream	1218	tins
Cod Liver Oil	7035	bottles
Orange Juice	27079	bottles
Vitamin A. and D. Tablets	1593	packets

HEALTH VISITING.

Staff.

During 1955 the health visiting staff was increased by one, and the health visiting areas were increased from 9 to 10. One unqualified health visitor left during the year and two new health visitors were appointed. A student health visitor completed her training and commenced duties in January 1955.

Statistics.

Tables 27 and 28 give some details of the work done by the health visitors during the year.

Table 27

	Births	*First Visits* 0-1 *yr*	*First Visits* 1-5 *yr*	*Other visits to babies* 0-1 *yr*	*Other visits to babies* 1-2 *yr.*	*Other visits to babies* 2-5 *yrs.*
Amlwch	63	58	2	762	377	639
Beaumaris	91	82	—	581	514	734
Bodedern	81	90	1	643	426	672
Bodorgan	61	64	—	660	573	635
Holyhead	198	184	3	722	470	881
Llanfechell	52	55	—	686	679	1322
Llangefni	79	64	1	675	374	450
Marianglas	58	56	4	490	287	454
Menai Bridge	47	54	—	737	257	479
Newborough	56	31	—	171	224	322
Totals	786	738	11	6127	4181	6588

The health visitors also visited other cases as follows :—

Table 28

Tuberculosis	1596
Home Help cases	454
Mental Defectives	537
Miscellaneous	791
Total	3378

HOME NURSING.

The qualifications of the nursing staff at present in post are as follows :—

S.R.N., S.C.M., Q.N.	6
S.R.N., S.C.M.	1
S.E.A.N., S.C.M.	9
S.C.M. (*engaged entirely on Midwifery*)	1

Table 29 shows the work done during 1955 in the separate districts.

Table 29.

	Cases.	*Visits.*
Amlwch	194	2,902
Beaumaris	136	2,706
Bodorgan	92	1,643
Holyhead	299	7,782
Llanddona	131	2,110
Llanerchymedd	123	1,636
Llanfechell	133	2,116
Llangefni	327	4,036
Marianglas	133	2,168
Menai Bridge	97	2,700
Newborough	122	1,401
Total	1,787	31,200

The following table gives further details of these cases :

Table 30.

Group.	*Total No. of Cases*	*Total No. of Visits*
Medical	1,206	21,165
Surgical	525	7,743
Tuberculosis	54	2,248
Maternal Complications	2	44
Total	1,787	31,200

The domiciliary nursing service staff consists of 16 nurses, all of whom combine home nursing with midwifery. The county is divided into 14 nursing districts. In the Holyhead area there are two district nurses one of whom is engaged mainly on domiciliary nursing as there is also a full-time midwife in this area. Llangefni also has two district nurses, one concentrating mainly on midwifery and the other on home nursing.

The service carried on steadily throughout the year. There was a slight decrease in the number of cases but an increase of approximately 1,500 in the number of visits as compared with 1954. No special provision is made for the home nursing of sick children but the volume of work under this score may be judged by the 497 visits that were paid to 81 children under the age of 5 at the time of the first visit. No night nursing service is provided.

Approximately 60 per cent. of the visits were entirely concerned with the giving of injections—penicillin, streptomycin, and anahaemin account for the majority of injections. There has been a slight reduction in the number of surgical visits paid, some patients being encouraged to visit doctors' surgeries for dressings. 709 patients were over 65 years of age at the time of the first visit and 15,936 visits (*i.e.*, just over 50 per cent. of the total) made were to these cases. There was a considerable amount of chronic nursing (hemiplegia, rheumatics, cardiacs and senility). 234 (or 13 per cent.) of the total number of patients received more than 24 visits during the year, 14,971 visits being paid to these cases.

Loan of Sick Room Equipment.

Nursing equipment such as air rings, bed cradles, bed pans, bed rests, crutches, feeding cups, invalid chairs, rubber sheeting, Dunlopillo mattresses, sputum mugs, urinals, etc., are available on loan.

Hitherto a deposit was required when an article was borrowed, such deposit being refunded on return of the article to the store. In addition a small weekly hire charge was made for the loan of the more expensive type of articles, e.g., invalid chairs, Dunlopillo mattresses, etc. If a person stated that he was unable to pay a deposit or hire charge, an assessment of means was made and, if necessary, the equipment was issued free.

The existing arrangements for this service were reviewed during 1955 and the procedure simplified. Each district nurse now holds the following items of equipment which she may issue on loan free of charge and without a deposit being paid :

air ring, bed pan, bed rest, hot water bottle, rubber sheet, urinal.

More expensive items are still stored centrally and a refundable deposit and a weekly hire charge will continue to be made.

During the year 163 items of medical equipment were issued on loan, compared with 159 items in 1954.

DOMESTIC HELP SERVICE

The service is provided by five whole-time home helps and by 63 part-time persons employed on a casual basis. The number of persons who received help increased in 1955 to 181 as compared with 165 in the previous year.

Of the 181 cases assisted in 1955 the largest group (112 cases) was aged and infirm persons. Maternity (7) and tuberculous (7) cases by comparison were small in number. The remaining 55 cases were a miscellaneous group of sickness, mental deficiency, etc.

MENTAL HEALTH.

Administration.

The mental health services are administered by the Health Committee through the Nursing Services Sub-Committee, which meets quarterly. The Medical Officer of Health is the executive officer in charge of the service.

Staff.

The Deputy Clerk to the Council, and the Council's Assistant Solicitor, are authorised officers, and the County Medical Officer is authorised to give medical certificates for the purpose of presenting petitions under the Mental Deficiency Acts 1913-38.

There are three duly authorised officers under the Lunacy Acts who are also district welfare officers and registrars of births and deaths ; two other officers, who act as reliefs, are on the administrative staff of the Health Department.

Six general practitioners in the county are approved for the purpose of giving certificates under the Mental Treatment Act 1930.

The council do not employ any trained social workers ; the health visitors, under the supervision of the superintendent nursing officer, visiting periodically all persons in the community known to be mental defectives. The council has agreed in principle to the employment of a psychiatric social worker, and it is hoped that the hospital management committee will share the services and cost of this member of the staff. At present the nearest psychiatric social workers are on the staff of the North Wales Hospital for Mental Disorders, Denbigh, and owing to the large area to be covered it is freely admitted that they cannot provide in Anglesey as full a service as one would desire.

Co-ordination.

Close co-ordination exists with hospital and institution authorities. Enquiries are made on behalf of hospitals and reports submitted as required. The supervision of patients on licence is undertaken.

There is no delegation of duties to voluntary associations and no special facilities exist for the training of staff.

The following statistics show the work done under the Mental Deficiency Acts 1913-1938 during the year 1955.

Table 31

MENTAL DEFICIENCY ACTS, 1913 TO 1938

	During 1955				*Total as at* 1*st January* 1956			
	Under age 16		*Aged* 16 *and over*		*Under age* 16		*Aged* 16 *and over*	
	M	F	M	F	M	F	M	F
I. *Particulars of cases reported during* 1955:								
(a) Cases reported by Local Education Authorities (Sect. 57 Education Act, 1944):								
(i) Under Sect. 57(3)	4	2	—	—	—	—	—	—
(ii) Under Sect. 57(5):								
On leaving special schools	—	—	1	—	—	—	—	—
On leaving ordinary schools	3	1	—	—	—	—	—	—
(b) Cases referred by the police or by the courts under Sect. 8(1) (a) (or as a result of other action by the Courts):	—	—	—	—	—	—	—	—
(c) Other sources	—	—	1	—	—	—	—	—
(d) Other defectives reported during 1955:								
(i) Not confirmed at 31/12/55	—	—	—	—	—	—	—	—
(ii) Not at present "subject to be dealt with"	—	—	1	—	—	—	—	—
Total No. of cases reported during year	7	3	3	—	—	—	—	—
II. *Disposal of cases*:								
(a) Those found "subject to be dealt with":—								
(i) Placed under statutory supervision	6	2	2	—	15	1	23	17
(ii) Placed under Guardianship	1	1	—	—	2	1	—	3
(iii) Taken to "places of safety"	—	—	—	—	—	—	—	—
(iv) Admitted to Institutions	—	—	—	—	5	1	13	24
(b) Those not at present "subject to be dealt with":—								
(i) Placed under vol. supervision	—	—	1	—	—	—	32	30
(ii) Action unnecessary	—	—	—	—	—	—	—	—
Total of Item II	7	3	3	—	22	3	68	74

At the end of the year 6 cases were awaiting institutional treatment. All were in need of urgent admission. No case was awaiting admission only because of poor environment.

Four males and 1 female were removed from the register and left the area during the year.

Lunacy and Mental Treatment Acts, 1890-1930.

The North Wales Hospital for Mental Disorders, Denbigh, is the only mental hospital in North Wales, and if a bed cannot be obtained there for a patient certifiable under the above Acts it is practically impossible to obtain the admission of a patient to a suitable hospital elsewhere.

In 1955 77 Anglesey cases were admitted to the Mental Hospital, Denbigh, 19 of whom were admitted on Summary Reception Orders.

Details are given in Table 32.

Table 32

ADMISSIONS, DISCHARGES AND DEATHS DURING THE YEAR 1955

	Admissions		*Discharges*		*Deaths*	
	M.	F.	M.	F.	M.	F.
Voluntary	28	21	26	17	—	—
Temporary	7	2	2	1	—	—
Certified	12	7	11	11	2	2
Total	47	30	39	29	2	2

AMBULANCE SERVICE.

Administration and Staff.

Ambulances were stationed at Amlwch, Menai Bridge, Llangefni and Holyhead. The two latter stations are manned throughout the 24 hours by whole-time staff.

Seven ambulances were in commission at the end of 1955.

The sitting car service was organised throughout the year on the same lines as hitherto, and the authority are greatly indebted to the County Organiser W.V.S. (Mrs. G. Hughes-Jones, M.B.E.) for the highly efficient way in which this work was done. The voluntary drivers carried out their duties in a thoroughly satisfactory manner and responded to all calls made upon them. A total of 36 drivers was available at the end of December.

At the end of the year the whole-time staff consisted of a Deputy Ambulance Officer, one duty room attendant and 8 drivers. No whole-time attendants are employed, but members of the Holyhead St. John Ambulance Brigade fulfill these duties when required. I should like once again to express my appreciation of the able way in which members of this contingent carried out their duties. It would be a considerable asset if a similar body of volunteers were available at other ambulance stations. The council's district nurse/midwives assist by accompanying maternity and other emergency cases.

Statistics.

Statistics relating to 1955 are given in Table 33.

Again I have to report an increase in the number of cases the ambulance service was called upon to carry. This has been the story every year since the council was made responsible for providing an ambulance service. The number of cases we were asked to carry in 1955 amounted to an additional 35 per cent. on the 1951 figure.

Administrative measures, by conveying more than one patient in a vehicle on any given journey, can effect some economy, and a further improvement can be recorded in 1955 :

No. of journeys needed to move 100 *patients.*

1950	74
1951	64
1952	59
1953	59
1954	55
1955	50

Table 33

AMBULANCE SERVICE, 1955

	AMBULANCES			SITTING CARS			TAXIS		
	Cases	Journeys	Mileage	Cases	Journeys	Mileage	Cases	Journeys	Mileage
First Quarter	1,747	860	26,942	1,372	752	30,316	5	5	714
Second Quarter	1,911	827	27,546	1,407	743	30,471	2	1	463
Third Quarter	1,815	911	30,807	1,207	657	27,445	8	6	1,141
Fourth Quarter	1,957	875	28,367	1,192	690	29,469	7	7	1,020
	7,430	3,473	113,662	5,178	2,842	117,701	22	19	3,338

	AMBULANCES	SITTING CARS
Average mileage per journey	32.73	41.41
do. do. patient carried	15.29	22.73

WELFARE SERVICE.

The Council's responsibilities under Part III of the National Assistance Act, 1948, stand referred to the Health Committee, who appointed a Welfare Sub-Committee to deal with these functions. The duties referred to are :

(a) the provision of accommodation :

  (i) for persons in need of care and attention because of age, infirmity, etc. ;

  (ii) temporarily and, in certain circumstances, for persons in urgent need thereof.

(b) the provision of welfare services for handicapped persons. At the present time the only caregories of such persons for whom the provision is obligatory are the blind and the partially sighted.

Details of the work done for the blind will be found on pages 45-47. The Council make a financial contribution to the North Wales Society for the Deaf and Dumb.

The Provision of Accomodation.

Accommodation under Part III of the Act was provided through out the year at Valley Hospital (which is administered by the Caernarvonshire and Anglesey Hospital Management Committee, but the County Council as minor user reserve a total of 32 beds), Llys-y-Gwynt, Holyhead (20 beds) and Park Mount, Llangefni (28 beds).

Details of the use made of these places are shown below :

Table 34

	Valley	*Llys-y-Gwynt*	*Park Mount*	*Total*
Residents at 1/1/55	31	20	22	73
Admitted	29	7	14	50
Discharged*	27	7	11	45
Died	2	1	2	5
Residents at 31/12/55	31	19	23	73

**Includes residents sent to hospital and who subsequently died.*

The Council exercised their powers under the Act to maintain during 1955 a total of two persons in accommodation provided by voluntary organisations outside the county.

Welfare of the Blind.

The Council employ one whole-time teacher of the blind.

Table 35

REGISTER OF BLIND PERSONS.

	On 1/1/55	*On* 31/12/55
Males	58	64
Females	99	102
Total	157	166

Changes during the year :

New cases registered	27
Deaths of persons on register	15
Transfers "In"	3
Transfers "Out"	3
De-certified	3

The age composition of the blind population on 31/12/55 was as follows :—

Table 36

Age in years.	*No. on Register*
0-4	—
5-15	2
16-20	—
21-39	5
40-49	8
50-64	35
65 upwards	116
Total	166

As will be seen from table 35 the number of registered blind persons in the county increased. The number of observation cases also increased slightly, and there are now 31 cases, who are visited periodically, the majority of whom are suffering from failing eyesight owing to advancing age or congenital causes, and who may, after a later examination, become registered as blind persons.

Two girls of school age are on the register, one of whom is attending a special residential school for the blind, the other child is not at present attending any school.

Four blind persons were in "open" employment, including one employed as a factory operative.

The Home Teacher paid 1,452 visits to registered blind persons and 81 visits to observation cases during the year. She organised a summer outing to Betws-y-Coed and Llanrwst, and a New Year party in Llangefni in January 1956, both of which were financed by the North Wales Society for the Blind, who also gave each blind person a handsome Christmas gift. This Society has also granted financial help to provide clothing, bed linen, extra nourishment in cases of sickness, etc., at the request of the Home Teacher.

The social clubs at Holyhead and Newborough continue to flourish. Blind persons in Amlwch, who wish to join a Club, have been invited to join the Pensioners' Club, the North Wales Society defraying their expenses whilst the Home Teacher attends to their transport and welfare at these meetings. The Committee of the Holyhead Club arranged a summer outing for their members to Benllech and Beaumaris, and also a very successful Christmas party.

The Holyhead Rotary Club presented a gramophone record player and a number of records to the Club in Holyhead. This is very much appreciated at the Club meetings, and the Home Teacher proposes to make occasional use of this gramophone in the homes of bed-ridden blind persons.

During the year the home teacher for the blind gave instruction in Braille reading to 3 persons. Library books in both Moon and Braille are in constant circulation, but the home teacher reports that there are no Moon type books written in Welsh which in this area is a disadvantage. Elderly people whenever possible are persuaded to take up Moon type reading. In practice, however, the effort to learn Moon reading proves too much for the majority, perhaps largely due to the fact that the radio provides them with news and information so much more easily.

The home teacher has also given instruction in knitting, making of sea grass stools, string and straw bags, cane work, lamp shades and cane-seating.

There were no recognised home workers or pastime workers on the register, but a number of articles made by blind people are sold through the agency of the North Wales Society for the Blind.

Holidays were arranged for three cases at Llys Owen Home for the Blind, Abergele, and much benefit was derived from their stay by these blind persons.

Preventable Causes of Blindness

Of the newly registered blind persons, their condition was due to glaucoma in 2 cases and to cataract in 11 cases, whilst in 2 cases the disability was due to a combination of these defects. No cases were due to ophthalmia neonatorum. Of the 15 cases referred to, 11 were considered to require treatment, and this has now been given to three cases.

THE CONTROL OF FOOD AND DRUGS.

Pasteurisation.

There are two pasteurisation plants in the county and weekly visits of inspection (including milk sampling) are paid to both plants by the county sanitary inspector. He reports that both plants were well organised and adequately supervised throughout 1955.

278 milk samples were taken (186 T.T. pasteurised and 92 pasteurised). All these samples passed the methylene blue and phosphatase tests.

276 milk bottle rinses were also examined, 6 of which proved unsatisfactory. This was due to experimenting with various dilutions of a proprietary sterilant.

Report of the Chief Officer of the Food and Drugs Department upon the Administration of the Food and Drugs Act, 1955 and other Allied Duties.

FOOD AND DRUGS ACT·

During the year 127 samples of food were submitted to the Public Analyst for analysis. Adverse reports were received in respect of 15 samples.

147 samples of milk were examined for butter-fat and non-fatty solids in the Department's laboratory. Samples being below the presumptive standards laid down in the Sale of Milk Regulations, 1939, were followed up by formal samples which were submitted to the Public Analyst. The average figures were :

Fat........................	3.62 per cent.
Solids-not-fat	8.59 per cent.

Details of Samples submitted to the Public Analyst.

Food.	*Number Submitted*	*Number "Not Genuine."*
Milk	32	9
Confections	16	—
Milk Products	16	—
Medicines	12	—
Meat and Meat Products	10	—
Ice Cream	10	—
Fish Products	7	—

Details of Samples submitted—continued.

Food	Number Submitted	Number "Not Genuine."
Beverages	6	2
Tinned and Potted Fruit	6	1
Vinegar	4	1
Spirits	3	2
Flour Products	2	—
Fruit	2	—
Soup	1	—
Total	127	15

NON-GENUINE SAMPLES

1. MILK

Of the 9 milk samples certified as being not genuine, 5 were due to the poor quality of the milk given by the cows. One was reported to have been low in fat, 2 low in solids-not-fat, and 2 low in both fat and solids-not-fat.

Four samples were reported to contain 18½, 14, 13 and 6 per cent. of added water respectively. Proceedings were instituted in respect of each of these samples and convictions were recorded.

2. OTHER FOODSTUFFS.

Spirits.

Two samples of spirits were reported to contain 1 per cent. of excess water. The matter was brought to the notice of the distillers, whose analysts, stated that the apparent excess of water was due, in fact, to an evaporation of spirit during bottling.

Tinned Fruit

One sample of tinned fruit was reported to have a misleading label. Arising from this sample the manufacturers have agreed to amend their labels.

Soft Drinks

A sample of pineapple crush was reported to contain a considerable amount of deposits consisting of particles of brass and oxidised copper. There were also growths of mould. The fault was due to unsatisfactory cleansing of bottles. A full report was submitted to the sanitary inspector in whose area the factory was situated. A new washing machine has been installed and there is a marked improvement in the general conditions at the factory.

A sample of limeade was reported to contain 2 parts per million of phenols (disinfectant). The drink had a most objectionable taste. The apparent reason for this contamination was that a previous customer had used the bottle for holding disinfectant, which had dried on to the glass and the subsequent cleansing had not removed it. The matter was brought to the notice of the manufacturers. In an endeavour to prevent the re-occurrence of this, a person has now been employed, whose duty it is to smell all bottles before cleansing and to remove those which are either extremely dirty or have an objectionable smell. The matter is a constant worry to the bottlers. Twopence deposit is charged on each bottle when it is sold by retail, which is recoverable on the return of the empty bottle. Unfortunately, these bottles are very useful for several household purposes and are often used temporarily to contain turps, paraffin, methylated spirits, etc., some of which leave a taint which is almost impossible to remove. Because of the deposit, it is quite a common practice for children to collect them from various places, such as refuse tips, etc.

Unfortunately this problem, although to a lesser degree, also applies to milk bottles.

Apple Vinegar, stated to contain "all the vitamins essential to slimming." Only a small amount, 0.28 mg. per fl. ounce of vitamin C was found. There were no quantitative details of vitamins present as required by the Act. The matter was brought to the attention of the retailer, who was responsible for the offending statement.

MILK AND DAIRIES REGULATIONS.

Samples for Tuberculosis and Brucella Abortus.

During the year 512 samples of milk were submitted for biological examination. The 526 results received were classified as follows :

Negative results	435
Evidence of Brucella Abortus	14
Evidence of Tuberculosis	1
Void samples	76

Details of the positive brucella abortus results were forwarded to the appropriate officers of the local sanitary authority, who, in all cases, have exercised their powers under Regulation 20 of the Milk and Dairies Regulations.

In the case of the positive tuberculosis report, the offending animal was detected and slaughtered.

The Milk (*Special Designation*)
(*Specified Area*) *Order*, 1955. *S. I. No.* 315.

This Order came into force on the 21st of March, 1955, from which date all milk retailed in Anglesey must be sold under one of the permitted "Special Designations," i.e., Tuberculin Tested, Pasteurised, Tuberculin Tested (Pasteurised) or Sterilized. The Ministry of Agriculture, Fisheries and Food, has the power to issue dispensation orders for those parts of the county where it is not possible to obtain a supply of designated milk. Despite the scattered population of a large area of the county, there is now only one dispensation order in force dealing with the supply to two houses.

The county is being supplied with milk from 5 heat-treatment plants, two of which are in the county. One of the effects of the Order, has been for the smaller retailer to give way to the dealers, some of whom cover very wide areas.

During the year 362 samples of designated milks have been submitted for examination. Of the 279 samples of pasteurised milk three were reported to have been insufficiently treated or had become contaminated with raw milk. Seven of the 83 samples of T.T. milk were reported as failing the methylene blue test. In all cases unsatisfactory reports were forwarded to the licensing authorities, who have taken appropriate action.

ICE CREAM

268 samples of ice-cream were submitted for bacteriological examination to the Public Health Laboratory at Conway. The results of the examination were classified as follows :—

	1955	1954	1953
Provisional Grade 1 ..	216 (80.6%)	330 (92.4)%	355 (71.7%)
Provisional Grade 2 ..	31 (11.6%)	25 (7.0%)	85 (17.2%)
Provisional Grade 3 ..	11 (4.1%)	2 (0.6%)	28 (5.7%)
Provisional Grade 4 ..	10 (3.7%)	—	27 (5.4%)

All the results were forwarded for the information of the local sanitary authority.

PHARMACY AND POISONS ACTS, 1933--1941

At December 31st, 1955, 138 premises were registered for the sale of Part II Poisons. These premises were regularly inspected and no serious infringements of the rules were detected.

SANITARY CIRCUMSTANCES.

Housing.

Table 37 (which is adapted from Appendix B of the Quarterly Housing Return of the Ministry of Housing and Local Government) gives details of the housing progress up to 31st December, 1955, in the various county districts since the end of the war.

Table 37

District	*No. of houses built or under construction*		*Increase since* 31 *Dec.*, 1954		*Total No. of houses built or under construction per* 1,000 *popula'n*
	by council	*by private builders*	*council*	*private*	
Beaumaris Bor..	157*	6	—	1	72.4
Amlwch Urban .	138	40	14	7	59.3
Holyhead Urban	349*	44†	26	15	38.0
Llangefni Urban	380*	30	70	2	168.0
Menai B. Urban.	98	81	8	28	89.5
Aethwy Rural..	318	44†	41	—	33.9
Twrcelyn Rural.	219	72	18	11	34.2
Valley Rural ..	326	98	17	30	34.2
Total	1985	415	194	94	46.5

* Includes temporary houses completed.

† Includes rebuilding of war destroyed buildings.

In Table 38 are set out the figures for each local authority at the year's end for the years 1950 through 1955.

Table 38

HOUSES (BUILT OR UNDER CONSTRUCTION) PER 1,000 POPULATION.

At 31*st December each year*

	1950	1951	1952	1953	1954	1955
Beaumaris	50	61	66	73	73	73
Amlwch................	22	35	41	41	52	59
Holyhead	24	24	26	29	35	38
Llangefni	99	105	115	133	143	168
Menai Bridge	27	51	53	65	72	89
Aethwy	9	12	15	23	30	34
Twrcelyn	14	16	22	26	31	34
Valley	8	13	19	26	31	34

The figures for Llangefni are seen to be outstanding. Menai Bridge has now passed Beaumaris and Amlwch is catching up. Holyhead has a poor record by comparison and is in danger of being overtaken by the rural districts, in each of which despite formidable difficulties further progress was made in 1955.

Water Supplies

Work on the construction of the *County Water Scheme* continued during the year, and the following note by the County Water Engineer gives details of the progress made :

"(a) *Development during* 1955

The mainlaying from Plas Bach to Pentraeth was commenced 16.5.55 and completed 20.11.55.

Mainlaying to Bodedern, Llanfwrog, Llanfachraeth and Llanddeusant completed 30.7.55.

Main from Bodffordd to Glanrafon commenced 30.6.55 and completed 2.12.55.

Main from Rhosmeirch to Talwrn commenced 25.7.55 and well in hand at the end of the year.

10in. main from Caergeiliog to Erw scraped and cleaned during period August to December to improve the Holyhead district.

Fluoridation of Gwalchmai zone of supply was commenced 17.11.55.

Cefni supply turned into Rhosneigr district 4.10.55.

Byelaws made under Section 17 of the Water Act, 1945, for preventing waste, undue consumption, misuse or contamination of water supplied by the Council were confirmed by the Minister of Housing and Local Government on 27.6.55 and came into operation on 25.7.55.

(c) *Lengths of mains laid during* 1955

County Scheme Mains : By Contract—19,245 yards.
Routine Extensions : By Department labour—3,886 yards."

(b) *New Supplies.*

The following Schedule shows the number of additional premises connected to the mains during 1955 :—

Beaumaris Borough	2
Amlwch Urban District	79
Holyhead Urban District	51
Llangefni Urban District	12
Menai Bridge Urban District	35
Aethwy Rural District	254
Twrcelyn Rural District	161
Valley Rural District	202
Total	796

The year 1955 was the first complete calendar year during which we had the services of the newly-appointed County Sanitary Inspector. All the county district councils, with the exception of Amlwch Urban District Council, have now delegated to the county council their powers under Sections 124, 138 and 140 of the Public Health Act, 1936. In the case of Amlwch U.D.C., these powers were delegated for part of the district only. The county sanitary inspector has been largely responsible for duties under these sections and for general sampling of the county's water supplies.

The following report by the county sanitary inspector indicates the work done during the year :—

" *Water Sampling.*—The county's piped water supplies are sampled weekly at 24 points on the periphery of the distribution area and at the Cefni water works. Included in this sampling routine are the local supplies at Cemaes and Plas Bach. The following table shows the result of the analysis of these samples :—

Table 39.

BACTERIOLOGICAL RESULTS OF WATER SAMPLES.
PIPED WATER SUPPLIES

Supply	*Ministry of Health Classification* I	II	III	IV	Total
Cefni	40	—	—	—	40
Plas Bach (Benllech, Moelfre)	79	—	1	—	80
Cemaes	40	—	—	—	40
Rhosneigr	28	—	3	7	38
County Supply (Cefni)	635	32	27	48	742
Bay View Estate, Benllech (Private Supply)	9	4	4	10	27
Beaumaris	67	5	6	5	83
Total	858	41	41	70	1,050

Samples were also taken of water supplies on farms for certification for domestic use and also of the water from public wells which are used for dairy purposes. 213 samples were taken during the year, 125 proved satisfactory and 88 not satisfactory.

It was found necessary, owing to technical difficulties, to supply Beaumaris from the former local supply from 22nd January to 18th September, 1955. Routine sampling produced spasmodic unsatisfactory results. Sampling was intensified and the results indicated that there was some pollution at the source of supply. The cause was finally traced to several small defects in various parts of the plant and after these had been remedied and the service reservoir sterilized sample results were satisfactory.

Sampling in the Rhosneigr area showed unsatisfactory bacteriological results on 10 occasions and several complaints were made by consumers that the water was " muddy " in appearance. Consequently, it was decided to close down the local works and on the 3rd October the area was connected to the county mains.

In the Holyhead area water samples taken in early May at the western end of the town proved unsatisfactory. Sampling was intensified and on one day alone in June, 42 samples were taken at strategic points in the distribution system. The results tended to point to contamination entering the mains from Cwm reservoir at peak periods of demand. At these times the demand was so great that the Cefni mains supply could not reach the western part of the town. Further tests were made, and in one period of 24 hours, samples were taken at 90 minute intervals and our suspicions were confirmed that the Cefni main supply, which was pumped into the Cwm reservoir overnight, was being contaminated there. As a temporary measure the water from the Twr water works, which is pumped into the Cwm main, was super-chlorinated and a drip chlorinator was installed at Cwm reservoir. A new chlorinator is on order and should be in position in 1956. In the meantime, the results of examination of samples are proving satisfactory. In September work commenced on scraping and lining with bitumen the 10in. main from Caergeiliog to the Erw Cross Roads. Sampling of water during this period was intensified as a check on the efficiency of sterilization of the treated sections prior to their being brought back into service. The actual sterilization operations were also supervised.

Public Health Act, 1936, *Section* 138.

This section enables the county council as the water authority to require the owner of a house to connect that house to the main supply, and to provide a supply of wholesome water in pipes in the house, if they are satisfied that there is not a wholesome supply of piped water in the house, and that in all the circumstances it is reasonable to do so.

As the county water scheme supply became available, surveys of the areas supplied were made with a view to private dwellings being connected to the mains supply. Surveys of the following villages were completed during the year—Cemaes, Llanfechell, Bryndu, Pencarnisiog and the Cerrig Man district of Penysarn.

In 187 cases it was considered reasonable to require the owners to provide a wholesome supply of piped water to the houses. An informal letter was sent to the owner of the house in each case, and where necessary this was followed by a statutory notice. There were no cases of enforcement under the section during the year as the number of voluntary applications for connection were being received at a satisfactory rate.

In accordance with the county council's policy of encouraging voluntary connections to the mains, several follow-up and re-inspection visits were paid to the villages of Bodffordd, Llanfairpwll, Newborough, Brynsiencyn, Llanddaniel, Llangaffo, Malltraeth and Dwyran (where surveys had been carried out during 1954) with the following results.

No. of informal letters sent......................	177
No. of statutory notices served..................	150
No. of voluntary connections during 1954 and 1955.	110

By agreement with the county council, informal notices to connect houses to the county mains were served upon certain owners by the Amlwch Urban District Council, in conjunction with their sewerage scheme. As a result of this action 58 premises were connected during the year.

Local Water Schemes.

Having regard to the fact that it will be impracticable to extend the mains to certain districts of the county for a number of years, the possibility of making use of local sources of water supplies was surveyed in the parishes of Llanddona and part of Penmynydd.

At Llanddona each house and farm was visited to ascertain the source of water supply. All the wells and streams were inspected and those that gave a reasonable amount of water had their daily yield measured to find their minimum supply. After considering all relative factors it was reported to the Water Committee that if the capacity of the reservoir at Wern-y-Wylan were increased there would be sufficient water for the needs of the district.

At Penmynydd the work was not complete at the end of the year.

Well Water.

The delegation of Part IV (except Sections 123, 137 and 141) of the Public Health Act, 1936, by the district councils to the county council involves the maintenance and supervision of 387 public wells. This number will steadily decrease as the surveys under Section 138 of the Act are extended and more houses are provided with a piped water supply. Many visits were paid during the year to investigate complaints made concerning the state of the water in some of these wells.

Five public wells were closed during the year under Section 124 (2) of the Public Health Act, 1936, and one small piped supply was discontinued and replaced by the county supply. Two private wells were closed by agreement with the owners.

Co-operation with District Councils.

I would like to take this opportunity of expressing my thanks for the help and co-operation I have received from the district councils' sanitary inspectors and their staffs."

Sewage Disposal.

I am indebted to my colleagues in the county districts for the following information as to the position at the end of 1955 :

Holyhead—West Holyhead Joint Scheme—a public enquiry is awaited.

Llangefni—Site plans for the new disposal work have been submitted to the Ministry of Housing and Local Government . A new sewer to serve 70 additional houses on the Pencraig estate has been laid.

Aethwy :

A public enquiry is awaited for the scheme to serve Dwyran. The Consulting Engineers are preparing schemes for the villages of Malltraeth and Gaerwen.

Twrcelyn :

Benllech *Moelfre* *Llanerchymedd*	Schemes have been submitted to the Ministry of Housing and Local Government.

Cemaes :—This scheme is still being delayed because of tendering difficulties.

Valley :

Aberffraw and Bodedern—schemes are under construction.

Bryngwran—a public enquiry is awaited.

Caergeiliog—the scheme is at present in abeyance.

Valley and Four Mile Bridge—the return of the contract documents from the Ministry of Housing and Local Government awaited.

APPENDIX "A"

CONSTITUTION OF HEALTH COMMITTEE (YEAR 1955/56)

Chairman : J. F. Chadwick, Esq., B.A., M.C

Vice-Chairman : Hugh Jones, Esq., J.P.

The Marquess of Anglesey.
Mrs. M. A. Edwards.
*Mrs. G. Hughes-Jones, M.B.E.
*Miss I. Johnston.
Mrs. Walter O. Jones, J.P.
Mrs. J. Morris.
Mrs. E. G. Williams, J.P.
Mr. C. W. Beretta.
Mr. R. D. Briercliffe, C.B.E., J.P.
Sir Wynne Cemlyn-Jones.
Mr. David Evans, J.P.
*Mr. O. Glynn Foulkes.
*Mr. D. A. Godfrey, L.D.S., R.C.S.
Mr. Owen Griffith.
*Dr. T. Alun Griffith, J.P.
Rev. D. R. Hughes.
*Mr. J. Hywel Hughes, M.D., F.R.C.S.
Mr. O. T. L. Huws.
Rev. W. R. Jerman (Resigned).
Mr. A. Ifan Jones, M.B.E., J.P.
*Prof. O. Herbert Williams, F.R.C.S.
Mr. Llewelyn W. Jones, M.P.S.
Mr. W. Parry Jones.
*Dr. W. Parry-Jones.
†Mr. Percy Ogwen Jones.
Mr. R. J. Jones.
Mr. T. O. Jones.
Mr. Wm. J. Jones.
Mr. W. P. Jones.
Mr. W. Charles Owen.
Mr. Griffith Pritchard.
Mr. Hugh Pritchard.
†Mr. Robert Roberts, J.P.
Mr. A. Robertson.
Mr. D. Thomas.
Mr. Glyn Thomas.
Mr. J. Hywel Thomas.
Mr. William Thomas.
Rev. D. J. M. Williams.
Mr. E. R. Williams.
Mr. J. Morris Williams.
†Sir Richard H. D. Williams-Bulkeley Bart., J.P.

*Co-opted members. †Ex-officio.

APPENDIX "B"

STAFF OF THE COUNTY HEALTH DEPARTMENT.

County Medical Officer of Health, Principal School Medical Officer and County Welfare Officer.	G. Wynne Griffith, M.D., D.P.H.
Assistant County Medical Officers of Health and School Medical Officers.	†G. H. Browse Roberts, M.A., M.B., B.Ch., B.A.O., D.P.H., L.M.
	Mrs. Mair Humphreys-Jones, M.B., Ch.B., C.P.H.
	†T. Dulyn Thomas, M.B., Ch.B. (Temporary). (Left 30.9.55)
	†Mrs. M. M. Lewis, M.B., Ch.B. (Part-time temporary). (Commenced 11.7.55)
	Miss Meinir Morris, M.R.C.S., L.R.C.P., (Part-time, temporary). (Commenced 3.10.55)
Principal Dental Officer.	O. C. Jenkins, L.D.S. (Eng.), D.D.S. (Toronto). (Commenced 20.6.55)
Dental Officers.	Dr.Catherine M. Rolant Thomas,M.R.C.S., L.R.C.P., L.D.S.
	Elwyn Jones, L.D.S.
Dental Attendants.	Miss E. M. Jones (Transferred to clerical staff 7.3.55)
	Miss Gwen Jones.
	Miss Sheila Lynch. (Commenced 7.3.55)
	Miss Pat Randall. (Commenced 24.10.55)
Consulting Obstetricians.	*O. Vaughan Jones, M.D., F.R.C.S., F.R.C.O.G.
	*W. Macfarlane, M.B., Ch.B., M.R.C.O.G.
Consulting Paediatrician.	*Gwyn R. Griffith, M.D., F.R.C.P., D.P.H., D.C.H.
Chest Physician.	*J. Glyn Jones, M.A., M.D., B.Chir., M.R.C.S., L.R.C.P.
Consulting Ophthalmologists.	*G. C. Laszlo, M.D., L.R.C.P., D.O.
	*T. G. Wynne Parry, M.R.C.S., L.R.C.P., D.O.M.S.

† Also part-time District Medical Officers of Health.

* Under contract with Regional Hospital Boards.

Consulting Orthopaedic Surgeons.	*Prof. B. L. McFarland, M.D., M.Ch. (Orth.), F.R.C.S. *G. I. Roberts, M.B., Ch.B., M.Ch. (Orth.), F.R.C.S.
Consulting Venerealogist.	*H. Vernon Williams, M.R.C.S., L.R.C.P.

* Under contract with Regional Hospital Boards.

Duly Authorised Officers.	**T. L. Jones, 7, Corn Hir, Llangefni (Tel. Llangefni 2254). **A. Pretty, Fair View, Llanfairpwll (Tel. Llanfairpwll 241). **J. Roberts, Hafanedd, Bron y Graig, Llangefni (Tel. Llangefni 3153). †H. Betts, D.P.A., 39, Pennant, Llangefni. †R. J. Jones, Ty Capel Gad, Bodffordd.

** Also District Welfare Officers.

† Relief D.A.O.

County Sanitary Inspector.	I. Wynn Jones, M.S.I.A., M.R.San. I.

ADMINISTRATIVE STAFF

Chief Administrative Assistant.	Horace Betts, D.P.A.
Clerical Staff.	Maldwyn Jones. Miss D. M. Williams. (Left 31.1.55) Mrs. E. Griffiths. R. J. Jones. Miss Eliz. C. Parry. (Left 4.4.55) Miss Eunice Jones. Miss Norah M. Williams. (Left 13.8.55) Miss E. M. Jones. (Commenced 7.3.55) Miss E. Lewis. (Commenced 7.3.55) Miss O. Ll. Edwards. (Commenced 4.7.55) Miss H. A. Roberts. (Commenced 12.9.55)
Deputy Ambulance Officer.	W. T. Rowlands.
Administrative Assist. (Welfare).	Miss Gladys Roberts.

ASSOCIATED OFFICERS OF THE COUNTY COUNCIL

Clerk of the County Council.	William Jones, O.B.E.
Deputy Clerk of the County Council	Idris Davies, LL.B.
County Architect	N. Sq. Johnson, A.R.I.B.A., A.M.T.P.I.
County Treasurer	J. E. Hughes.
Inspector of Food and Drugs	H. A. Thomas.
Public Analyst	Harold Lowe, M.Sc., F.R.I.C.
Children's Officer	Miss M. Rowland.
County Water Engineer	W. H. Austin, B.Sc. (Eng.), A.M.I.C.E., M.I.W.E.

NURSING STAFF

Superintendent Nursing Officer	Miss Hilda V. Parry, S.R.N., S.C.M., Q.N., H.V.Cert.
Deputy Supt. Nursing Officer.	Mrs. Margt. Rh. Davies (*nee* Parry), S.R.N., S.C.M., H.V.Cert.
Health Visitors.	*Miss G. Hughes.
	*Miss E. C. Parry.
	*Miss E. C. Pritchard.
	*Mrs. M. M. Williams. (Left 31.8.55).
	*Miss Glenys A. Pritchard.
	*Miss M. C. Williams.
	*Miss L. M. Jones.
	*Miss A. Williams.
	*Miss E. E. Hughes. (Commenced 10.1.55)
	*Miss E. Hughes. (Commenced 1.9.55)
	Miss J. E. Jones. (Commenced 1.4.55).

* Also School Nurses

District Nurse/Midwives.	Nurse E. Clarke, Ty Fry, Tynygongl (Tel. Tynygongl 289).
	Nurse C. Davies, Ty Newydd. Llanddaniel (Tel. Gaerwen 58).
	Nurse A. Evans, 15, Rose Hill, Beaumaris (Tel. Beaumaris 83).
	Nurse E. M. Hughes, 7, Pennant, Llangefni (Tel. Llangefni 3208).
	Nurse E. Wyn Hughes, Llain Nest, Newborough (Tel. Newborough 213).
	Nurse E. Jones, Tyddyn Ball, Llanfechell (Tel. Cemaes Bay 247).
	Nurse P. Lloyd, Bryn, Holyhead (Tel. Holyhead 290).
	Nurse P. M. Murphy, Ty Ceiliog, Beaumaris (Tel. Beaumaris 96).
	Nurse E. Parry, Haulfre, Bethesda St., Amlwch (Tel. Amlwch 396).
	Nurse G. Price, 31, Tara St., Holyhead (Tel. Holyhead 300).
	Nurse E. Helsby Pritchard, Trem Ceidio, Llanerchymedd (Tel. Llanerchymedd 323).
	Nurse W. M. Roberts, Nurse's Cottage, Bodorgan (Tel. Bodorgan 262).
	Nurse S. Strong, 22, Llanfawr Rd., Holyhead (Tel. Holyhead 490).

Nurse E. Vidler, Bryn Mona, Rhosybol (Tel. Amlwch 338).

Nurse D. Williams, 7, Pennant, Llangefni (Tel. Llangefni 3208).

Nurse E. Williams, 4, London Rd., Bodedern (Tel. Valley 246).

Nurse L. Williams, 4, High Street, Menai Bridge (Tel. Menai Bridge 100).

OTHER STAFF

Matrons—Homes for the Aged :

Llys-y-Gwynt	Miss Sarah E. Williams.
Park Mount	Miss Ellen Jones, S.R.N., S.C.M.
Home Teacher for the Blind.	Miss Dilys Jones.

APPENDIX "C"

PRESENT ARRANGEMENTS AT ANTE-NATAL CLINICS

Clinic	*Time*	*Place where held*	*Days when held in month*
AMLWCH	2 p.m.	Glanrafon	2nd and 4th Thursday
HOLYHEAD	2 p.m.	St. David's Priory	Every Wednesday
LLANGEFNI	2 p.m.	Frondirion Clinic	1st and 3rd Thursday

PRESENT ARRANGEMENTS AT INFANT WELFARE CENTRES

Name of Centre.	*Place where held*	*Days when held in month*
AMLWCH	.. Court Room	1st and 3rd Tuesday
BODORGAN ..	.. Bethel Schoolroom	1st and 3rd Tuesday
BEAUMARIS ..	.. The Old Gaol	1st and 3rd Thursday
CEMAES BAY ..	.. Village Hall	1st and 3rd Friday
GWALCHMAI ..	.. Village Hall	2nd and 4th Thursday
HOLYHEAD ..	.. St. David's Priory	1st and 3rd Thursday
LLANGEFNI ..	.. Frondirion Clinic	2nd and 4th Wednesday
LLANFAETHLU ..	.. Coffee House	2nd and 4th Friday
LLANFAIRPWLL ..	.. Presbyterian Church	2nd and 4th Friday
MARIANGLAS ..	.. Old British School	1st and 3rd Monday
MENAI BRIDGE ..	.. 4, High Street	2nd and 4th Tuesday
NEWBOROUGH ..	.. Memorial Hall	1st and 3rd Wednesday
VALLEY	.. Court Room	2nd and 4th Monday

APPENDIX "D"

AREA, POPULATION, BIRTHS, DEATHS FOR 1955

District	*Area in Acres*	*Population*			*Live Births*	*Deaths*
		Census 1931	*Census* 1951	*Mid-year* 1955		
Amlwch	4,494	2,562	2,700	3,000	40	52
Beaumaris	3,135	1,710	2,128	2,250	34	19
Holyhead	730	10,700	10,569	10,330	173	161
Llangefni	2,510	1,782	2,225	2,440	49	27
Menai Bridge	824	1,675	1,855	2,000	26	32
Urban	11,693	18,429	19,477	20,020	322	291
Aethwy	52,352	10,765	10,434	10,670	154	169
Twrcelyn	53,865	8,644	8,569	8,500	126	135
Valley	58,784	11,191	12,157	12,410	189	243
Rural	165,001	30,600	31,160	31,580	469	547
Anglesey........	176,694	49,029	50,637	51,600	791	838

ANNUAL RATES PER 1,000 ESTIMATED POPULATION

District.	*Birth Rate*	*Death Rate for*				
		All Causes	*Phthisis*	*Respir-atory*	*Cancer*	*Heart Disease*
Amlwch	13.3	17.3	0.0	1.7	2.3	5.0
Beaumaris	15.1	8.4	0.9	0.9	0.9	2.7
Holyhead	16.7	15.6	0.4	1.1	2.9	5.6
Llangefni	20.1	11.1	0.0	0.4	1.6	2.9
Menai Bridge	13.0	16.0	0.0	0.5	3.0	3.5
Urban	16.1	14.5	0.3	1.0	2.4	4.6
Aethwy	14.4	15.8	0.3	1.8	2.8	5.4
Twrcelyn	14.8	15.9	0.2	1.5	2.2.	4.6
Valley	15.2	19.6	0.0	1.0	2.8	6.0
Rural	14.9	17.3	0.2	1.4	2.7	5.4
Anglesey......	15.3	16.2	0.2	1.3	2.6	5.1

INFANT DEATHS—STILLBIRTHS—MATERNAL DEATHS

District	*Infant Deaths* *No.*	*Rate**	*Stillbirths* *No.*	*Rate***	*Maternal Deaths.* *No.*	*Rate***
Amlwch	3	75.0	4	90.9	—	—
Beaumaris	—	0.0	—	0.0	—	—
Holyhead	6	34.7	1	5.7	—	—
Llangefni	2	40.8	3	57.7	1	19.2
Menai Bridge	1	38.5	—	0.0	—	—
Urban	12	37.3	8	24.2	1	3.3
Aethwy	7	45.4	3	19.1	—	—
Twrcelyn	5	39.7	3	23.2	—	—
Valley	10	52.9	9	45.4	1	5.0
Rural	22	46.9	15	31.0	1	2.1
Anglesey......	34	43.0	23	28.3	2	2.5

*per 1,000 live births. **per 1,000 births (live and still).

APPENDIX "E"

INFANT LIFE WASTAGE

In the Annual Report for 1951 the wastage of infant life in the period 1949—1951 was treated at some length. It is the intention, here, to bring the analysis up to date by examining the data for the four years 1952—1955.

The basic figures are as follows :—

INFANT LIFE WASTAGE : 1952—1955.

	Anglesey		*England and Wales*	
Stillbirth rate :	24		23	
Neonatal mortality rate	26		18	
Total early wastage :		50		41
Death rate after neonatal period	12		9	
Total wastage		62		50

The total wastage in Anglesey is thus 24 per cent. above that in England and Wales. The corresponding figure for the 1949-1951 period was 33 per cent.—we may thus conclude that there has been some improvement in recent years. Nevertheless, there remains an excess of 24 per cent. to be accounted for.

The Effect of Illegitimacy

Ever since the distinction between legitimate and illegitimate infants was first made in the national statistics the disadvantage of the latter has been consistently evident. The difference in mortality between the two classes has, it is true, been reduced progressively and this reduction undoubtedly reflects a more compassionate attitude on the part of society towards the unmarried mother. But a difference remains in the country as a whole and Anglesey is no exception :—

TOTAL WASTAGE RATE OF INFANT LIFE 1952-55.

	Anglesey	*England and Wales*
Legitimate	60	49
Illegitimate	85	62

The proportion of births in Anglesey which are illegitimate is higher than in England and Wales ; during the period we are examining 42 per cent. higher. This disparity in itself must contribute to the excess wastage in Anglesey and a little arithmetic will tell us how much. If the proportion of illegitimate births in Anglesey had been reduced to that obtaining in England and Wales and the wastage *rates* observed in Anglesey had still applied the total local excess wastage would have been reduced from 24 per cent. to 21 per cent.

Out of 168 illegitimate births during the four-year period only 10 took place in " mother and baby " homes.

Wastage in the Separate Districts.

Can the excess wastage be localised to any particular district or districts ? Even when we take the experience of four consecutive years into account the numbers we have to deal with in the separate districts are small. The total births (live and still) in the four years varied from 133 in Menai Bridge to 834 in Valley. It would clearly be dangerous to draw any far-reaching conclusions on the basis of such small figures. If, however, we group the urban and rural areas, we find :—

WASTAGE RATES—ANGLESEY—1952-55.

	Early Wastage	*Late Wastage*
Borough and Urban	50	7
Rural..............................	50	15

There is no difference in the early wastage but the late wastage is twice as high in the rural as in the urban areas.

The Period at which Wastage Occurs.

We have applied the terms " early," " late " and " total " to the wastage of infant life and these need to be defined. By " early " wastage we mean the wastage arising from stillbirths and from deaths in the first month of infant life, per 1,000 total births. By " late " wastage we mean the wastage due to deaths occurring between the end of the first month and the end of the first year of infant life per 1,000 survivors to the age of one month. " Total " wastage is the sum of the early and the late wastage.

The factors affecting wastage are not the same at all stages. Wastage at or near birth is profoundly influenced by the maturity of the infant, but if the premature infant survives to, say, the age of four weeks his chance of further survival beyond that point are less affected by his initial lack of maturity as by other and environmental factors.

The number of stillbirths and infant deaths at various stages have been tabulated below, and also the number that would have been expected to occur in Anglesey in the four-year period if the national rates of wastage had applied locally. (In deriving these " expected " figures we take into account only those infants surviving to the commencement of the age-period in question.)

ANGLESEY, 1952-55.

Number of Stillbirths or Deaths :

Age Period.	*Observed.*	*Expected.*	*Difference.*	
			Actual	*Per Cent.*
Stillbirths	80	77.5	2.5	6
0—1 day	33	24.7	8.3	20
1—7 days............	42	24.2	17.8	43
1—4 weeks	12	9.3	2.7	6
1—3 months...........	20	10.6	9.4	23
3—12 months	18	17.2	0.8	2
			41.5	100.

The first point to note is that the total excess in 4 years amounts to 41.5 That is to say, if we could reduce our rate of wastage to the average level for the whole country we should save about 10 infant lives each year.

The second point to note from this table is that 69 per cent. of the excess occurs in the period before the end of the first week. Between 1 and 4 weeks the excess is relatively unimportant, but the period 1—3 months makes a substantial contribution to the total even though small compared to the very early period up to the end of the first week.

Finally, after the age of 3 months there is no appreciable difference between Anglesey and the national average.

Clearly then, in order to reduce the level of wastage locally to somewhere near the national average we need to seek and eliminate adverse factors operating.

(a) Before, at, or soon after, birth ;

(b) at the age of 1—3 months.

Before leaving this aspect let us see how things stand in the recent period when compared with the years 1949—1951. If we examine where the excess wastage in Anglesey was occurring compared with England and Wales we find :—

EXCESS IN ANGLESEY OVER ENGLAND AND WALES, PER CENT DISTRIBUTION.

	Stillbirths and Deaths up to 1 month.	*Deaths 1—3 months.*	*Deaths 3—12 months.*	*Total*
1949-51	63	22	15	100
1952-1955	75	23	2	100

This is instructive. Whereas in the earlier period deaths after the age of 3 months accounted for 15 per cent. of the excess, in the latter period the difference is all but eliminated. At the same time, the early wastage has increased in its relative importance.

The Social Gradient

There is a gradient in wastage as we pass from one social class to another. This has long been recognised. In the earlier review (in 1951) an estimate of the social class distribution of births was made and this was used to derive wastage rates by social class. A similar estimate (by classifying a stratified sample of births registered amounting to 30 per cent. of the total) has been made for the period 1952-55. The Registrar General has published wastage rates by social class for the year 1950 for the whole country and these figures are given below. In broad terms, Social Class I is the professional class, Class III is the artisan class, and Class V is the unskilled labouring class. Class II is intermediate between I and III and contains, for example, farmers, while Class IV, to which are allotted farm labourers and other agricultural labourers, is intermediate between Classes III and V.

WASTAGE RATES BY SOCIAL CLASS.

EARLY WASTAGE.

	I—II	III	IV—V
Anglesey, 1949-1951	45	60	54
England and Wales, 1950......	35	40	47
Anglesey, 1952-1955	36	54	51

LATE WASTAGE.

	I—II	III	IV—V
Anglesey, 1949-1951..........	12	12	35
England and Wales, 1950	6	11	16
Anglesey, 1952-1955	3	10	24

The first part of the table shows for the early wastage that there has been in all classes in Anglesey some improvement since 1949-1951. Social Class III shows the greatest disparity in both periods, and appears to be to some extent out of line in that there is not in either period an unbroken gradient as seen in England and Wales.

Turning now to the second half of the table, the late wastage. It is clear that here, too, all classes in Anglesey have shared in the improvement between the two periods. In Social Class I—II the improvement is such that the rate in the more recent period is well below that for the country as a whole in 1950. (No doubt more recent data for England and Wales if they were available, would also show an improvement on 1950).

In Social Class IV—V on the other hand, the local rate is even now well above that recorded for England and Wales in 1950.

The Early Wastage

Ante-Natal Care.

The number of expectant mothers seen at our ante-natal clinics when related to the number of births does not appear to have declined to any great extent in the recent past. We have no separate details concerning the attendance of Anglesey mothers at clinics at St. David's Hospital, Bangor, and the figures we have are incomplete to that extent :—

Mothers Attending Ante-Natal Clinics : as per cent. of Total Births in the Period.

1948-1951	67 per cent.
1952-1955	64 ,,

Taking the hospital clinics into account we may conclude that from 70 to 75 per cent. of expectant mothers are seen, even if only on one occasion, at an ante-natal clinic.

The district midwives paid home visits in the ante-natal period to 43 per cent. of all births. For the whole county the average number of such visits paid per case is 6.0 for the period 1952-1955. The average number of visits per case was almost exactly the same in the earlier period. The average number of visits per case showed considerable variation between nursing areas ranging from 3.7 in Amlwch to 8.5 in Llangefni.

In addition to the ante-natal supervision given at clinics and by midwives a proportion of mothers would have been supervised by their own doctors. In some cases this might be the only supervision given while in others, the midwife and the clinic might have shared the work with the doctor. The only information available concerning the role of the general practitioners is the fact that the Executive Council passed accounts relating to the ante-natal period for the years 1952-1955, equivalent to 55 per cent. of all births.

The type of ante-natal supervision given in cases of stillbirth and early infant death was investigated with the following results :

Ante-Natal Supervision.	*Number*	*Per Cent. of Total*
1. Hospital In-Patient........................	16	10
2. Ante-Natal Clinic but not (1)	92	57
3. General Practitioner, but not (1) or (2)........	41	26
4. Midwife, but not (1) (2) or (3)	2	1
5. Special Arrangements other than (1) (2) (3) and (4)	4	2
6. No supervision given......................	6	4
	161	100
No Information available	6	

It seems that the wastage among cases seen at the ante-natal clinic is slightly less than among cases supervised in other ways. If we take 72.5 per cent. as the percentage of all pregnant women who are seen at least once at a clinic then the wastage among them (including hospital in-patients) is 44 per 1,000, compared with 57 per 1,000 for the remainder.

Place of Confinement.

In the case of the 167 instances of early wastage the confinement took place as follows :—

St. David's Hospital, Bangor	113
Gors Maternity Home	28
Domiciliary	19
Elsewhere	7

As we know the number of confinements occurring under the above headings we can calculate the wastage according to place of birth. The figures are given in the next table together with the corresponding rates for 1949/51.

EARLY WASTAGE RATES BY PLACE OF BIRTH.

	1949-51	1952-55
St. David's Hospital	90	72
Gors Maternity Home	12	25
Domiciliary	41	35

There has been a decided decline in the rate for St. David's Hospital and a smaller fall in the rate for domiciliary confinements.

The rate for the Gors Maternity Home, however, has doubled. To some extent the rate as calculated understates the wastage arising with confinements occurring there because infants transferred from Gors Home after birth for treatment at St. David's Hospital and subsequently dying in hospital will have been included in the figures for the hospital. There have been instances too, of mothers being transferred from Gors to St. David's Hospital after the commencement of labour because of unforeseen difficulties in the conduct of labour. The question, therefore arises whether there has not been in recent years a tendency to a change in the type of case accepted for confinement at the maternity home. If this is so then apparently the change has involved an enhanced early wastage of infant life.

The improvement in the St. David's Hospital figures is due mostly to a decline in the number of deaths occurring after the end of the first week of life.

Causes of Death.

In the present state of knowledge the ostensible causes of stillbirth and early infant death in the majority of cases do not afford a clear indication of how the occurrence might have been prevented.

There was one case of infanticide, one of " inattention at birth," and one of syphilis. These might all be fairly regarded as preventable. There were five instances of infective conditions and some of these might have been prevented. There were 6 deaths, including stillbirths, ascribed to haemolytic disease of the new born but this is no more than one would expect from the national average for the period. All 14 of these cases, however, account for less than 10 per cent. of the total early wastage.

At the other extreme are the cases where the cause is quite unknown. There were, for instance, one or two deaths due to rare diseases of unknown cause. Congenital malformation so gross as to be incompatible with life were found in 26 instances—14 among live born infants. Compared with the national rate these conditions are no more and no less common in Anglesey than one would expect, but why they should occur at all is a mystery into which we have barely started to penetrate.

Consanguinity is not apparently as common in Anglesey as one has been led to believe. Information is sought on the relationship if any, between the parents in all cases of stillbirth and infant death, but for 6 out of 167 instances during the period the information is not available. Of the remainder only two instances of consanguinity is recorded—-one of second cousins and one of a more remote blood relationship.

The largest group was that where prematurity alone or in conjunction with other conditions was given as the proximate cause. Maternal toxaemia and ante-partum haemorrhage, birth injury, and atelectasis were other sizeable groups. Wastage in association with these conditions can only be prevented by adequate care in the ante-natal period and at the time of delivery. Our knowledge, however, is not at present sufficient to enable us to prevent completely the wastage associated with these abnormalities. In other words, some wastage must be expected even in the best regulated pregnancies and the most expertly conducted deliveries.

Prematurity.

Because it is so often associated with early wastage, prematurity calls for separate consideration.

The proportion of all births in Anglesey during the period that were notified as being premature is slightly less than the corresponding figure for England and Wales (7.1 per cent. as against 7.7 per cent.). This difference is not large and one cannot be certain of the degree to which notification is complete.

There were 50 cases of hospital deliveries resulting in stillbirth or death within a week of birth, and where the estimated duration of pregnancy was 32 weeks or less.

Estimated Duration of Pregnancy.	*Stillbirth*	*Early Death.*
Less than 28 weeks	—	13
28 to 30 weeks	11	10
31 to 32 weeks	6	10

The interest of this table lies in the 13 deaths of infants born alive where the pregnancy lasted less than 28 weeks. Had the infant shown no signs of life after birth it would not have been recorded as a stillbirth because by definition a stillbirth can only occur if the infant was capable of separate existence and this point is arbitarily fixed at 28 weeks pregnancy. No such limitation applies to live births. There is no means of knowing to what extent such extremely premature infants, judging by duration of pregnancy, figure in the national statistics. If they were discounted in our local figures the early wastage rate would be reduced from 50 to 47 for the four-year period.

There is naturally a process of selection at work which results in a higher proportion of hospital births being premature than of domiciliary births. Whereas 16 per cent. of all births were domiciliary only 11 per cent. of premature births notified in the period occurred at home.

Of the 27 live born premature babies born at home 21 were nursed at home and 6 were transferred to hospital. All but one of these 21 babies survived to 28 days—this one was less than 3 lbs. 4 ozs. at birth. The remaining 20 were all over 4 lbs., 6 ozs. birth weight.

Detailed information is available concerning the premature babies born in hospital for the last 3 years only of the period under review. The outcome according to the weight at birth was as follows :—

PREMATURE LIVE BORN INFANTS BORN IN HOSPITAL.

Weight at Birth.	*Total*	*Died within* 24 *Hours.*	*Survived to* 28 *Days.*
3 lbs. 4 ozs. or less	25	14	2
3 lbs. 5 ozs. to 4 lbs. 6 ozs.	31	4	23
From 4 lbs. 7 ozs. to 5 lbs. 8 ozs.	91	1	86

It is possible to compare the local results as given in the above table with those for England and Wales (for the years 1953 and 1954).

Two points arise from the comparison. Firstly, relatively more of the Anglesey premature babies are in the smaller weight ranges. In England and Wales 33 per cent. of premature babies live born in hospital weighed less than 4 lbs. 6 ozs., while 38 per cent. of Anglesey babies were in this group. This would lead, of course, to a slightly higher wastage rate locally. The second point relates to the chances of survival according to birth weight.

MORTALITY (PER CENT) IN FIRST 24 HOURS BY BIRTH WEIGHT.

Birth Weight.	*Anglesey.*	*England and Wales.*
3 lbs. 4 ozs. or less	56	44
3 lbs. 5 ozs. to 4 lbs. 6 ozs.	13	10
From 4 lbs. 7 ozs. to 5 lbs. 8 ozs. ..	1	2

There is a tendency to a rather higher immediate mortality among Anglesey cases in the first two weight groups, and although the numbers are small the difference if we combine these groups is statistically significant (difference equals 14 per cent. s.e. 6.3 per cent.).

MORTALITY (PER CENT.) UP TO 28 DAYS AMONG THOSE SURVIVING THE FIRST 24 HOURS.

Birth Weight.	*Anglesey*	*England and Wales.*
3 lbs. 4 ozs. or less	82	43
3 lbs. 5 ozs. to 4 lbs. 6 ozs.	15	11
From 4 lbs. 7 ozs. to 5 lbs. 8 ozs. ..	1	2

Again, the Anglesey babies in the first two weight groups seem to be at a disadvantage but this time the numbers are so small that the difference, even if we combine the first two groups, is not statistically significant (difference equals 9.0 per cent. s.e. 6.2 per cent.).

Domiciliary confinements attended by the county midwives during the period totalled 578 of which 37 were miscarriages. In 64 per cent. of cases the midwives were acting as maternity nurses under the direction of a medical practitioner. During 1953-1955, the doctor was present during the confinement in 54 per cent. of these " booked " cases, in the remainder the doctor would have been available if the midwife needed him. (Information on this point is not available for 1952).

The Late Wastage.

In the four-year period there were 38 deaths of infants between the ages of 1 month and 12 months, giving a mortality rate of 11.8 compared with 9.0 for England and Wales. Considerable information is available concerning these 38 infants and although the number is small some useful conclusions may be drawn.

There are only two large groups of causes of death. Gross congenital malformations accounted for 7 deaths. The mortality in this age-range from congenital malformations is not appreciably different in Anglesey from that in England and Wales.

Infections (with or without digestive disturbances) were the ostensible cause of 28 deaths. There were two accidental deaths—the so-called " inhalation of vomit "—which if modern opinion is correct, may also have been infective in origin.

The overwhelming importance of infection is borne out by the seasonal incidence of mortality. Leaving on one side the deaths from congenital malformation, 19 out of the 31 other deaths occurred in the January to March quarters.

Social class exerts a greater influence in this age group than in the " early " wastage from stillbirth and neonatal death. The death rate locally among illegitimate infants was more than double that among legitimate infants (23.5 per 1,000 as against 11.0). Among legitimate babies we have already indicated the rates for the different social classes. It need only be added here that if congenital malformations are excluded the mortality in Social Classes I—II during 1952-55 was nil.

There was *a history of a previous infant death* in the sibship in 12 out of 37 instances (no information on the point being available in the other case). That is to say, nearly one-third of the deaths were the infants of mothers who had already lost one child. We do not have the necessary data to calculate with any degree of exactitude the probability of two or more infant deaths occurring in the sibship on the assumption that the deaths are unrelated. But as a first (and very rough) approximation we might say that the chance that any given maternity occurring in Anglesey in the last 7 years would have resulted in an infant death was about 1 in 24. The chances of two unrelated deaths occurring would then be less than one in five hundred. This of course, takes no account of the different degrees of risk that we know apply to first, second, third and so on infants of a sibship. Nevertheless, the association of an infant death with a previous infant death noted in one-third of the instances in recent years strongly suggests that the deaths could not be unrelated. In other words, there must have been some common factor behind both events. What that factor may be we do not know, but the observation is of value as a pointer to the need to apply preventive attention to families where there is a history of previous loss of infant life.

Another instructive fact relates to *the age of the mother* in these cases of " late " infant death. When the deaths are enumerated according to the age of the mother we find (no information in one case) :—

Mother's Age.	*No. of Deaths.*
Up to 26 years	19
27—31 years	6
32 years and over	12

Unfortunately we have no means of relating these deaths to the number of maternities that occurred to mothers in these age groups. The distribution does suggest, however, that infant deaths in the " late " period were commoner among mothers under 27 and over 32 years of age.

The position of the deceased child in the family is recorded in 37 of the 38 deaths as follows :—

1st	9
2nd	6
3rd	4
4th	5
5th	6
6th or over	7

The 1951 Census Report gives the numerical structure of households and this may be taken very approximately as indicating the structure of families. Taken in this sense, we may use the census data to compare the risk of death among first, second, third and so on infants. Expressing the risk to the first child as unity, the table gives :—

Risk of Death of 1st Child	Unity.
Risk of Death of 2nd Child	Unity.
Risk of Death of 3rd Child	Unity.
Risk of Death of 4th Child	Threefold.
Risk of Death of 5th Child	Six-fold.
Risk of Death of 6th Child and over	Ten-fold.

This rough calculation (and too much attention must not be paid to the exact values quoted) serves to emphasise the way in which the risk of an infant dying increases rapidly with the size of the family after a certain point is passed.

Associated with this increasing risk with increasing family size is the state of *overcrowding* in the house. In 14 out of 37 cases (no information is available on this point in the case of one death) there was marked overcrowding in the home ; there was moderate over-crowding in a further 12 cases, while it could not be said of the remaining 11 that there was any.

The *feeding history* of the dead infants (excluding the 7 deaths from malformations and a further case where full details are not available) was as follows :--

At the onset of the fatal illness the infant was :—

artificially fed in 23 instances ;

weaned in 4 instances ;

fed partly on the breast and partly artificially in 2 instances ;

fed entirely on the breast in only one case.

Of the 23 artificially fed infants only 2 had been breast-fed after the age of 4 weeks.

Health Visiting.

During the period the county health visitors paid a first visit to 3,177 " new " babies, that is to say, practically every new-born baby received a visit. The average number of visits paid during the four-year period by these officers to an infant was 9 in the first year of life. Information on health visiting is available for 37 out of the 38 deaths. In three instances the infant was detained in hospital and died there. Only one of the remaining 34 was never visited by a health visitor. This was a baby admitted to hospital at the age of 10 days and detained until six weeks old. The infant died 3 days after coming home and before the health visitor had paid her first call. It is possible that had the liaison between the hospital and the health visitor been better this death might have been avoided. The number of visits paid by the health visitor is exactly known only in 24 cases, and the average in these cases is just over 5 per case. As the average age at death for these 24 cases was 4 months 3 weeks, and as the health visitor does not usually assume charge of the infants' supervision until after the midwife has ceased to attend, it would not seem that there was any lack of frequent visits in these fatal cases. In one instance the health visitor paid no less than 12 visits in the 5 months the infant lived at home.

During the four-year period it is estimated that 65 per cent. of all infants attended an *infant welfare centre* on at least one occasion. The average number of attendances made was 8.3 per infant under the age of 12 months. Of the 37 infants who died and for whom we have information 3 were detained in hospital throughout and one, already referred to, died within a few days of discharge. Nearly half the remainder (16 out of 33) never attended an infant welfare centre at any time. The numbers involved are small, but they do suggest that there is a higher mortality among infants not seen at a centre than among infants who do attend.

Summary and Conclusions.

The division of infant life wastage into two parts—the " early " and the " late "—serves several purposes.

On the one hand the local health authority must accept the major responsibility for the prevention of " late " wastage. The supervision of all infants is one of the prime functions of the authority and if the " late " wastage is excessive this should lead to a critical examination of the machinery employed in the discharge of this function. With the " early " wastage, however, the position is otherwise. During the pregnancy, the confinement and the puerperium, there are these days at least three agencies concerned with the care of the mother and her child. The local health authority as represented by its nursing staff and its ante-natal clinics is only one, and a minor one at that. In this area our ante-natal clinics have always been staffed by doctors from the hospital service. Four out of five confinements are taking place in institutions administered by the hospital authorities, while general practitioners have, since 1948, taken a much increased part in the maternity services. The distribution of deliveries in 1946 and 1954 is given below :—

PERCENTAGE OF ALL DELIVERIES WHERE RESPONSIBILITY DEVOLVED ON :

	1946	1954
A Consultant	34	47
A General Practitioner	27	47
A Midwife	39	6
	100	100

The births in these two years were 917 and 835 respectively. The table indicates very clearly the changes that have occurred. The share of the work devolving on the consultant services and even more so on the general practitioner has increased at the expense of the midwife. Not only has the responsibility for the confinement tended to shift in this way, but there has also been a corresponding shift in responsibility for ante-natal supervision. The percentage of all expectant mothers supervised in the ante-natal period by midwives has dropped from 58 per cent. in 1945-47 to 43 per cent. in recent years. So far as can be judged (in the absence of data for Anglesey mothers seen at the St. David's Hospital ante-natal clinic, Bangor) there has been a slight fall in the proportion seen at the clinics. No data are available on the amount of ante-natal care undertaken by general practitioners in 1945-47, but for 1952-55 the local executive council passed accounts for Part I services (with or without Part II services) totalling 1,860 cases, representing 55 per cent. of all births in the period. There is reason to think that the true figure of ante-natal supervision by general practitioners is definitely higher. It is not argued whether this shift in responsibility has been a " good " thing. Since the years immediately preceding 1948 there has been a decline both nationally and locally in the " early " wastage as the next table shows.

EARLY WASTAGE.

	England and Wales	*Anglesey.*
1945-1947	50	58
1952-1955	41	50
Percentage Decline............	18	14

It will be noted that the fall in the local rate has been relatively rather less than that observed in the national figures, but too much attention need not perhaps be paid to this. What is important is to recognise that profound changes involving the hospital and particularly the general practitioner, have occurred in the organisation of maternity services. And it must be stressed that at present 80 per cent. of the wastage of infant life occurs in the " early " phase—the phase in which the hospital and the general practitioner have increasingly taken over clinical responsibility. Furthermore, as the " late " wastage is being progressively reduced, the relative importance of the " early " wastage increases. It is plain then that the hospital and the general practitioner no less than the local health authority need to turn their attention to this problem.

From the analysis of the Anglesey material of the last four years the following points relating to the early wastage seem important :—

Ante-Natal Care.—Midwives are concerned with the domiciliary ante-natal care of only 43 per cent. of maternities. More use could well be made of the services of the midwives—not to replace but to supplement the ante-natal supervision undertaken by doctors.

Ante-Natal Clinics.—In view of the expert service given by the consultant obstetricians at these clinics, one would like to see an even higher proportion of expectant mothers attending. The tendency to a higher wastage among mothers who have never attended a clinic should be noted. Again the clinic service should supplement and not replace the attentions of the general practitioner unless abnormalities arise calling for hospital treatment.

Gors Maternity Home.—The increased wastage among cases confined at this maternity home should be noted.

Unmarried Mothers.—More use could be made of " mother and baby " homes in suitable cases, and to this end the availability of this service needs to be given suitable publicity.

As has already been indicated, the local authority services have a major role in the prevention of " late " wastage. The prime agent employed by the authority in this work is the health visitor and although the number of these deaths in the four-year period in Anglesey was only 38 there are lessons to be learnt.

The death rate is twice as high in the rural districts as in the urban areas.

There is often a history of a previous infant death in the family.

The mother is usually rather young or rather old.

The labouring classes have a higher death rate than the other strata in society.

The risk of death increases rapidly with size of family. Mothers with five or more children need particular attention.

The baby that dies is almost invariably artificially fed.

Frequently the home is overcrowded.

The babies that do not attend infant welfare centres need watching with particular care.

The months of January to March are the most dangerous.

Many of these factors interlock. For instance, the mother who does not take her baby to the infant welfare centre not infrequently fails to do so because she has no one to care for her numerous other small children while she is out of the house. In all probability we should find that her husband is a labourer and her home is overcrowded.

These factors that we have enumerated should indicate to the health visitor where preventive attention needs to be applied. The more factors that apply in any given case, the more attention needs to be directed to that baby.

Health visiting needs to be selective to an increasing degree if it is to make its fullest contribution in preventing the wastage of young life.